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ABSTRACT

A project was conducted to assess the evaluation needs of post secondary cooperative education program administrators and to develop procedures and checklists for assessing productivity and impact of postsecondary cooperative education. This work built upon a general design developed in 1976 under part C of Public Law 90-576 for improving planning, management and evaluation of cooperative education programs. The evaluation component of that design was adapted to meet the special needs of post-secondary cooperative education program directors to focus on measures of productivity and impact, and to address the problems of sex and ethnic bias. The project involved the following: review of relevant postsecondary cooperative education documents; studies and interviews with local directors regarding evaluation needs; a revision of the evaluation design to reflect special needs of postsecondary cooperative education programs and to focus on measuring productivity and impact; the development of specific procedures and checklists to assess existing evaluation procedures and/or to develop new ones in critical checkpoint areas; and a pilot-test of products with post-secondary cooperative education program administrators. A set of procedures and checklists for evaluating the productivity and impact of postsecondary cooperative education programs resulted from this study. (The checklists and instructions on their use are appended.) (Author/JH)

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FINAL REPORT

PROJECT NUMBER: 498AS460191
GRANT NUMBER: 300760269

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DEVELOPMENT OF PROCEDURES AND INSTRUMENTS FOR ASSESSING THE PRODUCTIVITY AND IMPACT OF POST-SECONDARY COOPERATIVE EDUCATION AND WORK EXPERIENCE PROGRAMS

JUNE 1977

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
BUREAU OF OCCUPATIONAL AND ADULT EDUCATION

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PROJECT ABSTRACT

PROJECT NUMBER : 498AS460191 GRANT NUMBER: 300760269

PROJECT TITLE : Development of Procedures and Instruments for Assessing the Productivity and Impact of Post-Secondary Cooperative Education and Work Experience Programs

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OBJECTIVES

The objectives of this project were: 1) to assess the evaluation needs of post secondary cooperation education program administrators and; 2) to develop procedures and checklists for assessing productivity and impact of post-secondary cooperative education.

PROCEDURES

This work built upon a general design developed in 1976 under Part C for improving planning, management and evaluation of cooperative education programs. The evaluation component of that design was adapted to meet the special needs of post-secondary cooperative education program directors to focus on measures of productivity and impact, and to address the problems of sex and ethnic bias in cooperative education programs. Based on that design, procedures, and instruments were developed and tested. The project involved: 1) review of relevant post-secondary cooperative education documents, studies and interviews with local directors regarding evaluation needs; 2) revision of the evaluation design to reflect special needs of post-secondary cooperative education programs and to focus on measuring productivity and impact; 3) development of specific procedures and checklists to assess existing evaluation procedures and/or to develop new ones in critical checkpoint areas; 4) a pilot-test of products with post-secondary cooperative education program administrators.

EXPECTED CONTRIBUTION TO EDUCATION

The results of this effort as contained in this report, includes a set of procedures and checklists for evaluating the productivity and impact of post-secondary cooperative education programs. As post-secondary cooperative education programs are increasingly being scrutinized in terms of impact and effectiveness, this evaluation manual will assist local project directors in evaluating their programs and increasing their program's productivity.

CHAPTER I
INTRODUCTION

I BACKGROUND

Cooperative education programs at the post-secondary level are growing. In 1969, only 120 post-secondary schools had cooperative education programs enrolling a total of 19,050 students. By 1975, 968 post-secondary schools had such programs enrolling approximately 165,000 students. Both public (70.9% of the schools reporting programs in 1975) and private (29.3%), and junior (46.3%) and senior (53.7%) colleges were represented (Brown and Wilson, 1975). Federal money allocated for post-secondary cooperative education programs has grown from $1,532,278 in 1970 to $10,750,000 in 1975 (DHEW, 1976).

Continued growth of cooperative education programs seems extremely likely. President Ford voiced support for the expansion of work experience programs in his speech on "work and education" at Ohio State University in August 1974. The recent evaluation of vocational education programs by the General Accounting Office took educators to task for under-utilizing work experience, stating, "It is generally acknowledged that inclusion of actual work experience in the vocational education curriculum provides students with valuable real life exposure to work requirements and helps assure that training is appropriate to employer needs" (Comptroller General, 1974).

A recent national survey of the effectiveness of school-based training programs stated: "If such programs are to be even more effective, though, they should provide students with more experience, more information about related jobs and up-to-date tools" (Benz, 1977).

The National Manpower Institute, in its report, The Boundless Resource, released in November 1975, recommended the development of programs giving all students at least 500 hours of work or service experience and the institution of a comprehensive program of community internships and work apprenticeships (National Manpower Institute, 1975).

For all the support for the concept, however, there is a serious impediment to the effective/productive expansion of post-secondary cooperative education programs. There is little knowledge as to what program components contribute to the success of these programs or of the relationship between expenditures and resource utilization and outcome. Little real evaluation of these programs has been done and there is a glaring lack of data on the differential impact of programs on women and minority group members.

Recently, the problems of sex bias, sex discrimination, and sex stereotyping have come to the attention of educators, legislators, and social scientists (e.g. Steiger, 1974; Steiger and Cooper, 1975; Steiger and Szanton, 1976; Steele, 1974; and House of Representatives Report No. 94-1085). A major cause for their concern was that women earn, on the average, much less than men (57% as much in 1973) (US Department of Labor, 1975). Reasons for this include discrimination against women and clustering of women in low paying jobs (Sweet, 1974). Women are restricted to traditionally female occupations, and these are at the bottom of the income scale (Sommers, 1974). Vocational education programs reinforce these trends by training female students either for low paying, no status, traditionally female jobs or for a future as homemakers not in the labor force (Steiger and Cooper, 1975). The faulty assumption underlying these patterns is that women spend little, if any, time in the paid labor force or are not breadwinners. Yet today 90% of women work at some time in their lives and the percentage employed in a given year has steadily increased from 28.2% in 1940 to 45.2% in 1974. Furthermore, many women are their family's only breadwinner today.

The most common form of evaluation of cooperative education programs is a simple survey of the opinions of students, employers, and administrators regarding the success of the program. Yet in a recent study, Frankel found no correlation between the rating administrators gave their programs

and the satisfaction of students and employers. In fact, on some indices high marks by administrators on program quality had negative correlations with successful outdomes as measured by Frankel. Furthermore, Frankel was restricted in his ability to analyze the relationships between activities and outcomes because of the lack of follow-up data on students. He found that only 61% of the programs had any follow-up data on students. He found that only 61% of the programs had any follow-up procedures at all, and the vast majority of those were the smaller programs. Only 8% of the programs with 40-99 students had follow-up procedures and none of the programs with more than 100 students collected follow-up data (Frankel, 1973).

The General Accounting Office report severely criticized all vocational education programs for poor evaluation procedures. "In the states we visited," the report states, "the existing vocational programs at all levels lacked adequate student follow-up. We were told that without this type of information, (1) it is extremely difficult to determine the extent to which specific training is impacting on individual and labor market needs, and (2) essential information on which to base instructional changes is not available to vocational educators and planners" (Comptroller General, 1974).

There is some evidence that local administrators are receptive to this approach. Frankel found in hi. interviews of program administrators that they listed development of program objectives and design of valid follow-up procedures, both essential components of evaluation, among their major problems (Frankel, 1973). A 1974 project in Kentucky found that cooperative education program directors who lacked evaluation skills responded well to a training program (Comptroller General, 1974).

The Education Amendments of 1976 included a number of provisions reflecting Congressional intent for greater accountability through evalua-

tion. For example, a new requirement directs the Commissioner to give priority to programs which show the greatest promise of success. Evaluation should also address the extent to which programs in the academic discipline have had a favorable reception from employers. Additionally, programs which purport to teach entry-level job skills are to be evaluated by sampling techniques, if possible, according to the extent to which program graduates find employment in related occupations and are considered well trained by their employers. While other provisions would indicate a gross expansion of cooperative education (e.g., fulltime employment is no longer a requirement for students), there are clear indications that accountability through evaluation will increasingly become a higher priority in Congress.

II PURPOSE OF THIS PROJECT

The purpose of this project is TO DEVELOP PROCEDURES AND INSTRUMENTS FOR ASSESSING THE PROCEDURES USED TO EVALUATE THE PRODUCTIVITY AND IMPACT OF POST-SECONDARY COOPERATIVE EDUCATION PROGRAMS. These procedures and instruments are in the form of checklists designed to be used by local program administrators to develop and/or improve evaluation components in their programs. The procedures and checklists are based upon the specifications of a general model for evaluating education programs designed by Education TURNKEY Systems, Inc., and Steiger, Fink, and Kosecoff, Inc. (SFK) as part of a 1975 Part C project and subsequent research conducted in 1976-77.

TURNKEY and SFK feel that the problem of inadequate evaluation design and procedures to assess productivity must be solved at the local level. The procedures and instruments for assessing the productivity and impact of post-secondary cooperative education programs must be useful to local program administrators. Philosophically, we believe the accountability for program effectiveness should rest with the person nearest to the program who is in a position to control its direction.

Practically, we believe that effective continuing evaluations of programs, and utilization of evaluation data for the improvement of programs and of resource allocation, can only be accomplished with the support and commitment of the local program administrator. We also believe that the problem of sex bias in vocational education programs will only be solved when awareness is raised at the local level and the problem is addressed by teachers, administrators, and counselors in all phases of their work.

III APPROACH TAKEN

The major developmental activity of this project was the design and development of a set of checklists to be used to assess existing evaluation forms and procedures and/or as the basis for the development of new evaluation forms and procedures for critical aspects of cooperative education programs at the post-secondary level. The checklists and procedures were based upon assessment of needs indicated through the review of literature and through personal discussions with a number of administrators of post-secondary work study programs in the Washington, D.C. area and so elsewhere.

The specific activities undertaken during the performance of this research and development effort are briefly described below. It should be noted that the delineation of specific tasks and activities differs somewhat from that included in the original proposal, although all of the activities originally proposed were undertaken. There are several reasons for this recategorization. First, when the proposal was originally submitted, the 1975-76 research effort on which this project was based was only half complete. Hence, some of the changes in that project recommended by USOE impacted upon the nature of the general model, which in turn had a ripple effect upon the nature of the proposed effort for the 1976-77 period. Second, after the proposal was funded, in a meeting of Part C project directors in St. Louis in October 1976, a number of areas were emphasized as having relatively higher priorities for USOE officials than was stated in the original guidelines. And last, the Education Amendments of 1976, passed in October 1976, had a number of provisions as mentioned above, which impinge upon evaluation activities and requirements related to post-secondary cooperative education programs. In anti-

cipation of implementation of these provisions, the priority focus of the study, again, changed somewhat. However, it should be re-emphasized that all of the activities originally proposed were indeed undertaken, even though priority areas within these activities changed somewhat.

Task 1 - Refine Overall Management Plan

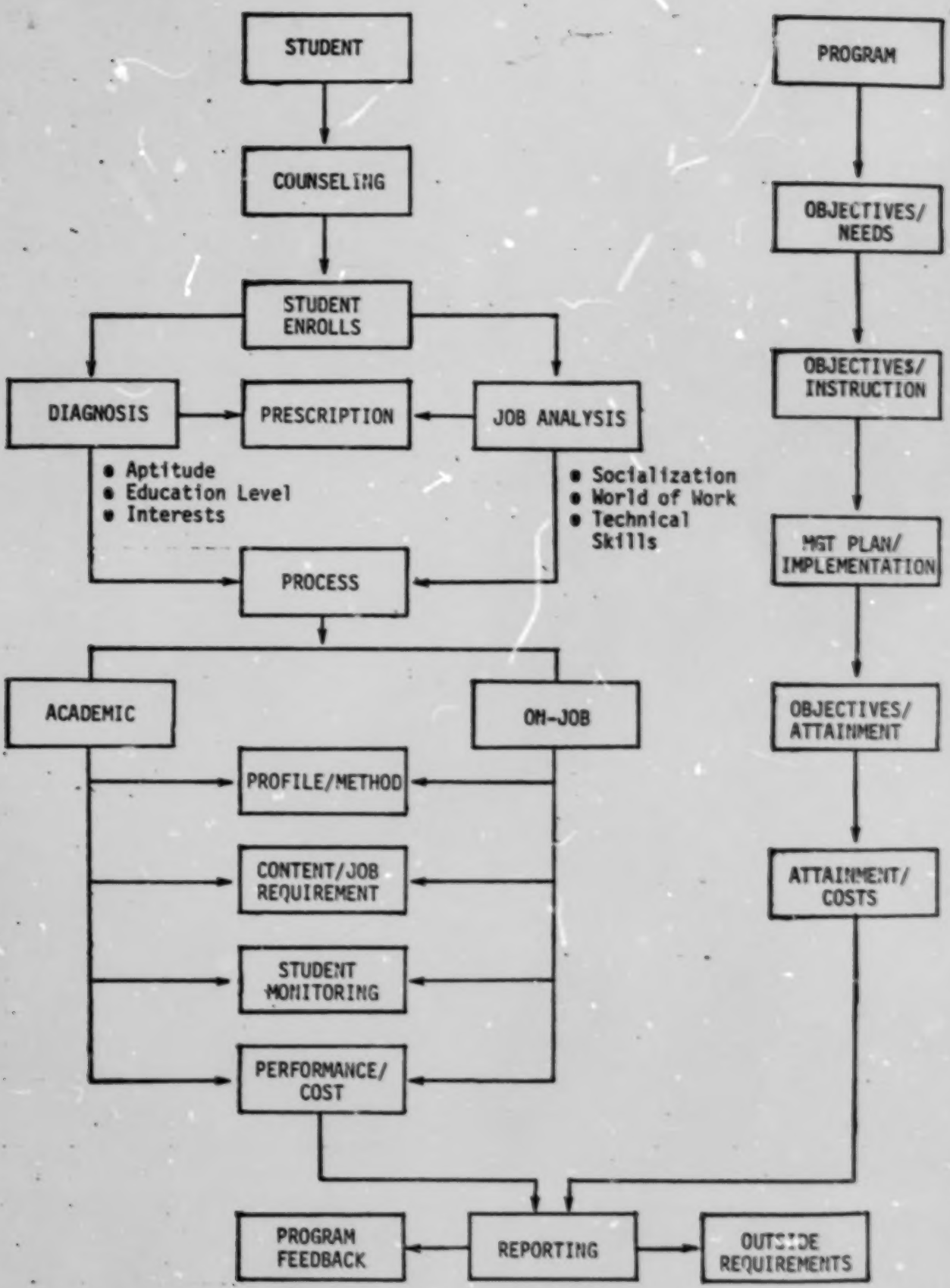
During the initial stages of the project, the overall management plan was refined, and minor changes made. It was originally proposed that field test efforts would be conducted in Grand Rapids, Michigan, on the assumption that a post-secondary cooperative education program would be funded under Part D. When it was found that the Grand Rapids proposal was indeed not funded, an alternative institution to be used for field testing was identified. In light of the good cooperation of the District of Columbia (SEA level) and original contacts with local post-secondary institutions, it was decided that the field testing would be conducted with the Washington Technical Institute (WTI) and, to some extent, with Federal City College (FCC). Also, unlike the previous year's effort, during which states were requested to nominate exemplary planning and evaluation models, it was decided to focus more specifically on a very limited number of exemplary models for potential revision and application. Also, it was decided that certain portions of the model described in the final report on the 1975-76 effort could be adapted without much change for application in descriptive aspects of this year's effort, demonstrating the attempt to build upon the previous year's effort in developing specific checklists and components for the post-secondary level. Finally, based upon discussions subsequent to the October St. Louis meeting of project directors for Part C Research Projects, it was decided that the field test would focus only upon fact validity in light of the limited number of institutions and the nature of the instruments themselves, as described below.

Task 2 - Conduct Needs Assessment

In conducting the needs assessment of program administrators of post-secondary cooperative education programs, a number of concurrent activities were undertaken. First, exemplary models and procedures identified in last year's effort were again reviewed for potential application and revi-

EXHIBIT I-1

EVALUATION CHECKPOINTS



sion for this year's effort. In addition, a number of reports, particularly those of an evaluation nature, provided some new insights. Second, a substantially greater level of effort was devoted to discussions with USOE officials involved in post-secondary cooperative education in an attempt to identify perceived needs on their part, especially with reference to the Education Amendments of 1976 and their implications for evaluation of cooperative education programs at the post-secondary level. Numerous USOE officials provided extremely useful insights as well as projections of their needs over the next two years.

Since the major focus was upon project administrators at the local level, the project team developed a list of topical areas which formed the basis for project team interviews with various individuals in post-secondary institutions involved in cooperative education programs. The levels of individuals interviewed included the President of the college or institute, the individual responsible for overall instruction, the Director of Cooperative Education Programs, and numerous officials responsible for various related functions such as Job Development, Placement, Counseling, and so on. The specific topics addressed in these interviews are listed in Table 1.

Table 1: TOPICAL AREAS FOR INTERVIEWING

- Perceived productivity of programs and the measures used to assess productivity over time.
- Perceived importance of various criteria from various perspectives.
- Problems inherent in associating cost with program effectiveness.
- Type of cost reporting system currently used for reporting.
- Hypothetical and ideal information reporting system to be used for evaluation purposes.
- Strengths and weaknesses of existing reporting evaluation systems.
- Anticipated evaluation problems over the next two years.

As a result of identifying evaluation needs and problems through the above approaches, a hypothetical model of evaluation checkpoints in typical post-secondary cooperative education programs was developed. This model and the evaluation checkpoints are displayed in Exhibit I-1. The project team then identified the critical priority evaluation checkpoints for which instruments would be developed based on the interviews and needs

assessment and a review of the Education Amendments of 1976. From this discrepancy-type analysis, priority instruments included in subsequent chapters were developed.

Task 3 - Revise General Model to Meet Post-Secondary Needs

Concurrent with the needs assessment, the project team reviewed the overall general model developed in the prior year to determine which aspects of it would be generally applicable. It was felt that a number of the checklists that had been previously developed could be refined for application in this effort and specifically, that previous work conducted in planning an evaluation design would be extremely appropriate based on discussions with officials at WTI and FCC. The results and findings of this study and analysis effort, deliberations, and discussions are summarized in the following section, entitled Evaluation Issues.

Task 4 - Develop Specific Checklists

Rather than attempt to develop specific evaluation forms and techniques for high priority checkpoints described in Exhibit I-1, it was decided that checklists would be developed to serve two purposes:

- to assist project administrators in assessing their existing information system or evaluation components related to identified checkpoints; or
- to assist project administrators in developing such evaluation forms and instruments where they did not already exist.

Developed between February and May (as described in a subsequent chapter), these checklists were field-tested for fact validity by having a number of administrators of cooperative education programs review the instruments in light of their perceived needs. After personal interviews with project administrators following their reviews of these checklists, the instruments were revised as necessary.

In the next section, we discuss some of the major evaluation issues and priorities which we identified during the needs assessment process and interviews. In subsequent chapters, the specific priority issues which are addressed in the checklist are described in greater detail. The summary of findings presented in the next section is diagramed in Exhibit I-1.

IV NEEDS ASSESSMENT: FINDINGS

Evaluation Checkpoints - Student Flow

A number of evaluation issues relate to certain evaluation checkpoints which occur from the time the student enrolls in the program to the time when the student leaves the program for continuing education or employment. These issues are summarized below.

1. Counseling: First, prior to enrolling in a specific cooperative education program, a student usually receives formal or informal counseling from institutional staff or referral agencies (e.g., Veterans Administration, CETA, etc.). In the initial step toward course selection, a number of considerations constrain the student/course matching process. For example, offerings by the institution may be limited due to a number of factors:

- the type of employers in the area;
- the amount of personnel available for counseling compared to the potential student enrollment;
- the availability of skilled labor force members who are unemployed in the specific geographical area; and
- other factors beyond the control of the program administrator and even the institution, in certain cases.

On the other hand, there are a number of issues which can be addressed in an effective counseling program for which procedural checklists would ensure coverage and potential solution. The first area is the elimination of sex stereotyping and bias, which is clearly a major objective of the Education Amendments of 1976 both in vocational education and post-secondary education programs. The second area, reflected again in the Education Amendments of 1976, is the priority funding given to cooperative education programs which show the greatest promise of success. In order for post-secondary institutions to meet these provisions, evaluation of existing counseling practices must be undertaken. It would appear that these areas lend themselves to checklist type instruments which can be used by program administrators in meeting many of these program requirements.

2. Prescription: A second area of focus is the diagnostic/prescriptive/job analysis process as applied to an individual student as he enrolls in a cooperative education program. While a number of the

constraints impinging upon effective counseling are in force at this checkpoint, there are perhaps a number of problem areas over which administrators could have more control given the availability of trained staff. Diagnosis, prescription, and job analysis are highly interrelated. A key issue here is whether the program administrator at the local level should begin with the job analyses or with the diagnosis of individual aptitudes and interests, and so on, a question usually answered by the overall philosophy of the cooperative education program within the institution. The program administrator at one of the more innovative and successful institutions suggested that the question really is not one of either-or. For example, this institution has a very hard-nosed business-like approach to cooperative education, with the only criteria for success being the number of jobs held or the number of participants and non-participants at entry level. On the other hand, the administrator has been able to take into account individual aptitude and interest levels by finding positions for participants as far as 2,000 miles away.

The type of job structuring is also a related issue of initial focus: either the student or the employer. Under the 1976 Amendments, funds are now available to institutions to provide job development and job structuring services working with employers to ensure that the participant is being trained in a career ladder rather than being used by the employer for a short period of time with limited growth and vertical mobility opportunities. There would appear to be a very strong need on the part of project administrators to have checklists which allow them to review existing procedures in this area to ensure more effective training, higher probability of vertical and even horizontal mobility upon completion, and greater student flexibility (within limits) to maintain interest levels.

3. Monitoring: Once the student enrolls in the instructional cooperative education program, evaluation activities through student monitoring should focus upon a number of issues, some of which have been mentioned earlier. One such issue is the degree to which the initial diagnosis and prescription regarding the learning profile of the student is matched with the instructional methods and techniques, which are used both in the academic and on-the-job environments. Another issue is the degree to which content, in both the academic and to a lesser extent on-the-job training environments, is matched with actual job requirements. One of the evaluation questions raised in the Education Amendments of 1976

is whether the success of a cooperative education program is due to a heavy commitment by the institution itself, based upon funding and other incentives available to that institution, or whether it is directly related to a favorable reception on the part of employers who train and then employ participants upon completion.

Evaluation Checkpoints - Program Level

Many of the evaluation issues as perceived from a student point of view also arise as one views the overall program. There do exist, however, a number of higher level issues which should be addressed by any evaluation system used in cooperative education programs.

The first issue is the conception of the program itself. In a number of institutions, the cooperative education program is that which occurs in the employer's environment. However, in some of the more innovative and successful institutions, the cooperative education program was defined as all of the components and services provided to the individual, ranging from counseling through placement on the job. In such instances, the key to success appears to be the degree of coordination among the various offices within an institution responsible for such functions. Indeed, the role described by one successful program administrator was that of essentially a "coordinating unit and ombudsman" for the student. From an evaluation point of view, however, what constitutes a cooperative education program is often dictated by funding sources, local or state statutes, and other factors which create inherent difficulties for anyone attempting to evaluate a cooperative education program, especially as one attempts to associate process variables with success or lack of success.

The second area, and most critical from an evaluation point of view, is the statement of program objectives, which in turn should be based upon an assessment of student, employer, and institution needs. For a number of reasons, cooperative education program objectives are usually very global in nature rather than being specific. This can be attributed to a number of factors, ranging from concern over being held accountable, to allowing funding flexibility, to in some instances purposeful ambiguity. Without clearly stated performance-based objectives, it is difficult if not impossible to conduct impact evaluations; without clearly delineated process or implementation objectives it is difficult to identify management changes which will result in more efficient operations; without ob-

jective assessment of needs, clearly stated objectives may be irrelevant, unrealistic, and of little practical utility to participants.

Assuming that objectives are based upon defined needs and are realistic, a program evaluation issue is the relationship of the instructional process in the program to the probability of achieving the objectives. Many of the student-related issues related to profile/matching method and content/job requirement are appropriately re-emphasized here. Another issue is the proper mix of academic and on-the-job training.

A third issue, from an evaluation point of view, is the degree to which the management plan, as stated, is actually being implemented. In most cooperative education programs, especially those which have existed for several years or longer, the "standard operating procedure" during the operational phase is seldom described on paper. This is of particular interest since discussions with numerous project administrators indicate that a detailed management plan for planning a new cooperative education program is indeed critical, and that within such a plan the degree of coordination among the various offices within the institution and between the institution and the employer is particularly critical and appears to be highly associated with successful programs. Successful program administrators repeatedly mentioned their role as a coordinator between the academic faculty and the employer implementing cooperative education programs.

Last, from the evaluation point of view, the major task in assessing the program is to relate objectives to actual attainment and attainment to cost. Discussions with numerous project administrators indicate that virtually all have some measure of success which they relate to costs even though the specific measures may reflect more the philosophy of the institution or the cooperative education program administrator rather than stated objectives and official documents. For example, the institution mentioned earlier which has a very business-like approach to assessing its success would not be interested in an evaluation model designed for an institution with a different philosophy. To illustrate, the cost provided by the employer is indeed a real cost to the operations of the cooperative education program; however, the above institution would not include these costs since it would argue that the employer, acting as a rational "economic man" would not be involved in the program unless the benefits to the firm were equal to or greater than the costs. And as described

later, the type of funding source often determines the perception of real cost involved in a program. For example, outside funding assistance based on the number of participants would conjure up a different perception of cost from a cooperative education program which is solely funded by the institution based on a program requirement rather than the number of individual participants. To be useful to the local program administrator, the evaluation design therefore has to be related directly to his perceived needs, which are a direct reflection of the philosophy underlying the program and a number of other factors impinging upon it.

Summary of Procedures (Chapter III) and Checklists (Chapters IV, V, VI)

In this section we summarize the overall set of procedures and instructional materials related to this development effort. Before doing so it should be noted that this set of procedures and checklists reflects the general characteristics of the model developed during the 1975-76 period.

Due to the wide variance in cooperative education programs at the post-secondary level, their philosophies, and funding sources, a decision had to be made regarding the types of programs for which the set of procedures and checklists would probably be most useful. While we feel that these procedures will be useful to some extent to any cooperative education program, they are primarily designed for programs which have many of the characteristics listed below. These characteristics, incidentally, appear to be correlates of successful or extremely promising institutional cooperative educational programs. The procedures and checklists, then, are primarily designed for:

- programs in which the administrators focus primarily upon the individual participant whose individual success is the primary measure of overall program success;
- programs in which evaluation appears to have a higher priority than in more traditional cooperative education programs where the maintenance of the program is an explicit or implicit institutional goal;
- programs in institutions which follow an "economic" approach in designing and operating cooperative education programs;
- programs in which the program administrator's role is perceived to be relatively broad, with emphasis on planning and coordination and where participatory management and early involvement of academic faculty members and employers in the planning process can occur.

From an evaluation perspective, the implications of this focus are significant and could result in tighter designs. For example, performance criteria would include measures such as percentage of placement, attrition on the job after six months, and salary differentials comparing participants to non-participants. On the cost side, employer resources consumed is only a secondary consideration since the economic justification for employee participation is that benefits are equal to or outweigh the cost.

The results of this developmental effort and the resulting set of procedures and checklists are presented below, summarized by chapter.

Review of the relevant literature on evaluation models is presented in Chapter II. The discussion in Chapter III focuses upon the topic of selecting an evaluation design, building upon the general model developed in 1975-76 by the project team. The topics and checklists focus upon a number of critical areas as follows. First, selecting evaluation questions requires an iterative process of prioritizing the types of questions key decision-makers wish to have answered and to negotiating among the various users, since all questions can never be addressed in a program evaluation design. It is primarily the function of the program administrator to determine the evaluation objectives or questions to be addressed, especially when a third party actually conducts the evaluation.

Second, the factors to be considered in organizing the information collection process are covered in the checklist with subsequent discussions on factors and considerations in actual data collection. Primary consideration is given to such factors as the accuracy of information, the reliability of the information, and to some extent the validity of data which is collected. Unless great care is taken during the data collection planning phase, subsequent evaluation activities are seriously hindered.

Third, planning and implementing data analysis and reporting is a third major focus of Chapter III. The major factors to be considered as these activities are undertaken are emphasized. The analysis plan should focus upon the primary questions to be answered, given the desired confidence level and generalizeability of the findings. Relatively simply statistical treatments useful in interpreting findings are covered. The primary emphasis in reporting focuses upon timeliness of information

and the utility for decision-making, primarily at the local level but also at higher levels, including funding agencies.

In Chapters IV, V, and VI, three problem-oriented evaluation checklists are presented, prefaced by discussions of the major issues related to the checklists and the rationale for their presentation. The selection of the specific checklists was based upon an assessment of the evaluation checkpoints described in Exhibit I-1 which as the reader will recall, resulted from the needs assessment and discussions with local program administrators of their program needs. The checklists are designed to assist program administrators in those areas where evaluation procedures and forms are presently being used or in those instances where they are non-existent. In the latter case, forms and instruments can be developed at a general level from the checklist. The areas on which checklists focus are: (1) the counseling process, including diagnosis and prescription; (2) matching the academic content to the job requirement and student progress monitoring; and (3) cost-performance relationships.

Throughout this document, a number of priority issues are addressed at all major checkpoints in the overall evaluation model and sets of procedures, including: sex-bias stereotyping; vertical and horizontal mobility considerations; individualization of programs; and "output" or "impact" evaluation.

CHAPTER II

BACKGROUND: EVALUATION OF COOPERATIVE EDUCATION

During the past decade, evaluation has emerged as a social science discipline. As the Stanford Evaluation Consortium recently noted, evaluation is an area of scholarship which has finally come of age. Evaluation, when applied to education programs, is a set of procedures used to appraise program merit and provide information about program goals, activities, and impact and productivity (Fink and Kosecoff, 1977). The importance of evaluating programs in education has been acknowledged by theorists and practitioners, and most federally funded education programs contain provisions for evaluation. Vocational and cooperative education programs are no exception. As noted earlier, the Education Amendments of 1976 (P.L. 94-482, Section 11) require that each State shall evaluate the effectivess of each program being funded under the law, and that the results of the evaluations be used to revise the State's programs. P.L. 94-482 further requires that each State must evaluate, "by using data collected, whenever possible, by statistically valid sampling techniques," each program that purports to "impart entry level job skills according to the extent to which program completers and leavers:

> "(i) find employment in occupations related to their training, and
>
> "(ii) are considered by their employers to be well-trained and prepared for employment..."

It is important to point out that P.L. 94-482 emphasizes program evaluation. This new focus may require a change in thinking for many cooperative educators who will have to turn their attention away from only evaluating students, faculty, or employers. For instance, instead of just providing information about how well students are trained or how satisfied employers are with their performance, cooperative educators are currently required under P.L. 94-482 to produce data concerning the components of their programs that have the most impact on student performance and employer satisfaction. As noted earlier, evaluation efforts in cooperative education have tended to be minimal and unsuccessful (Blaschke and Steiger, 1976).

The inadequacy of cooperative education evaluation efforts in post-

secondary schools was also emphasized by Cohen and Solmon (1976) whose study encompassed 15,000 people, 2,000 documents, and 96 campuses. According to them, evaluations of "cooperative education have not typically been well done."

I CURRENT EVALUATION THEORY AND MODELS

Most evaluation theorists and practitioners agree that the purpose of evaluation is to provide information about a program's impact, productivity, and merit. However, approaches to gathering and reporting the information vary. Steele (1976) describes three major evaluation models. The first, the "Student Outcome" model, is designed to determine how well a specific number of students achieve predetermined objectives as a result of their participation in a specific program. The second, the "program process" model, is used to estimate the degree to which certain program processes, like events or activities, are associated with student achievement or other possible program outcomes. Steele's third model, "policy" evaluations, is designed to assess the results to existing policies and programs and to test old ones.

The Center for the Study of Evaluation (CSE) at UCLA has a five-stage evaluation model. According to CSE, evaluation involves ascertaining the decision areas of concern, and then selecting, collecting, analyzing, and reporting information to the appropriate audiences (Klein, Fenstermacher, and Alkin, 1971). In CSE's model, a program should first be subject to a "needs assessment" in order to arrive at valid and consistent goals. Next, the program planners must develop a program that is designed to meet the goals. During CSE's third stage, the evaluator determines how well the program is implemented; while in the fourth, the progress of the program in meeting its goals is assessed. In the fifth stage of the model, the evaluator appraises the overall success of the program.

Another major evaluation approach is the CIPP model developed by Stufflebeam (1968). In this model, there are four major evaluation strategies: context, input, process, and product. The purpose of context evaluation is to identify needs and delineate problems underlying the needs. Input evaluation, the second strategy, is performed to identify and assess system capabilities, available input techniques, and designs for implementing them. Process evaluations result in the identification

or production of defects in the procedural design or its implementation and documentation of procedural events. The fourth strategy is product evaluation, and its purpose is to relate outcome information to objectives and to context, input, and process information.

Goal-free evaluation, suggested by Scriven, involves the evaluator in assessing a program's impact and productivity without advance knowledge of its goals. Scriven asserts that it is the evaluator's responsibility to appraise a program's effects and not its intentions.

Still another model has been proposed by Stake (1967). According to the model, the two basic acts of evaluation are description and judgement, both of which are essential if education programs are to be understood. To employ descriptive judgement, the evaluator should use data banks documenting information on antecedent conditions, transactions, and intents, as well as goals and objectives.

Because of the relative newness of evaluation as a discipline, there is a paucity of trained evaluators in cooperative education, and it is only recently that program managers have accepted the need to study evaluation, to develop skills in conducting the follow-up research to determine what happens to "program completers and leavers", and to devise "statistically valid sampling techniques". In fact, post-secondary school cooperative educators in search of specific information about evaluation practices will inevitably be disappointed. The Cooperative Education Information Clearinghouse at the Cooperative Education Research Center, Northeastern University (1975), for example, provides an extensive bibliography of articles and reports for cooperative educators. However, it has no special evaluation category, although a "Planning and Implementation" classification of documents is available. To complicate matters, cooperative education programs have unique needs that make it difficult to automatically adopt existing general evaluation models or theories. The authors of the Cooperative Education Study (1975) write: "There appears to be no universal or guiding principle -- beyond that of meshing classroom and work experience in post-secondary education -- which could serve as a single foundation for program evaluation.

This report was, therefore, prepared as a vehicle for providing post-secondary school cooperative educators with the evaluation skills and information they are currently unable to obtain from any other sources.

The approach to program evaluation described in the report was specifically designed for cooperative education programs and is built on the assumption that each one has unique features and guiding principles.

II COOPERATIVE EDUCATION EVALUATION REQUIREMENTS

Cooperative education needs an evaluation model which can be adapted to fit the needs of a variety of program types and program settings. The model must be equally useful for distributive education, office occupations, industrial and trade occupations programs, and other subject areas and combinations of subject areas; for large cities and rural areas; for secondary and post-secondary schools; for standard classes and classes for students with special needs. The model must allow for input on evaluation questions from all concerned groups: students, parents, teachers, administrators, employers, labor representatives, community groups, and advisory councils. It must be sufficiently straight-forward and practical such that cooperative education program directors with limited resources at their disposal will find it realistic and useful. Yet, it must also provide for the use of sufficiently sophisticated techniques so that evaluation questions concerning the progress and outcome of instruction, and the relationship of program components to outcomes, can be answered.

Any effective procedure for the evaluation of cooperative education, such as the general model on which checklists were developed, should have the following four features that distinguish it from other models and make it especially appropriate to cooperative education programs:

1. Responsiveness to a program's needs. The evaluation model should be specifically designed so that it can be molded to fit the requirements of every program no matter how unique they are. In this way, the shape of an evaluation is entirely dependent upon the purposes and nature of the program and is never imposed on it.
2. Provisions for checks and balances. Because of the importance of the audience of the evaluation, each major category of evaluation activity should begin and end with reference to previous activities and to the need for consultation with the client to ensure that her/his needs are being met.
3. Action and practical orientation. The model should be developed so that the evaluation can provide timely, relevant, and accurate information that can readily be used. This can be done by providing the framework for including the client in the formation of the evaluation and in the monitoring of its progress and quality.

4. Attention to issues of special concern to cooperative educators. A major goal of many cooperative education programs is the provision of skills and training for women and minority students. The model should incorporate within it special attention to important problems faced by these groups, like sex or ethnic bias in career interest inventories. The model should also provide a framework for designing follow-up studies (as required by P.L. 94-482) even in situations that are characterized by high rates of student transiency and mobility.

Evaluation is defined as "a set of procedures used to appraise a program's merit and to provide information about the program's goals, activities, impact, and productivity". (SFK 1975) There are two contexts in which evaluations can be conducted. In the first context, an evaluation is conducted to improve a program and the evaluation's clients are typically the program's organizers and staff. In the second context, an evaluation is conducted to certify the effectiveness of a program; here the evaluation's clients are typically funding agencies and Congress.

The context for an evaluation is determined by the information needs of the individuals and agencies who must use the evaluation information. An evaluation is performed in an improvement context when the evaluation's clients are concerned with finding out precisely where a change would make the program better. Usually, the organizers of a still-developing cooperative education program require this kind of information so that they can modify and improve the program. On the other hand, an evaluation is conducted in an effectiveness context when the evaluation's clients are particularly concerned with determining the extent to which the program's overall quality can be guaranteed. Individuals who funded program development or who are interested in using the program require this kind of information about a completed program's impact and productivity. In addition, in an effectiveness context, the evaluator frequenty assumes a more global and independent perspective than in an improvement context.

The evaluation activities are organized into six major categories:

1. Selecting Evaluation Questions;
2. Organizing Information Collection;
3. Collecting Information;
4. Planning and Implementing Data Analysis;
5. Reporting Information; and
6. Managing Evaluation Activities.

In Chapter III of this report, each of these activities is described in detail.

CHAPTER III

COOPERATIVE EDUCATION EVALUATION IMPLEMENTATION PROCEDURES

In this chapter, the procedures for conducting an evaluation of the productivity and impact of post-secondary cooperative education and work experience programs are detailed in such a way as to provide the foundation for the development and use of the evaluation checklists described in Chapters IV, V, and VI. This chapter is divided into six sections, each representing a major evaluation category:

- Selecting Evaluation Questions;
- Organizing Information Collection;
- Collecting Information;
- Planning and Implementing Data Analysis;
- Reporting Information; and
- Managing Evaluation Activities.

Each evaluation category includes the following:

- Introduction;
- Considerations involved in performing specific evaluation activities;
- Problems associated with specific evaluation activities; and
- Case Example that illustrates the application of the considerations and the effects of the problems.

I SELECTION OF EVALUATION QUESTIONS

An effective evaluation results in timely and believeable information that is useful in improving or certifying a program. To ensure an evaluation's effectiveness, the evaluator must pose questions that are responsive to the needs of all concerned individuals. In formulating the questions, the evaluator must review the program's goals and activities and ascertain the kinds of information that will be acceptable as evidence of program success.

Considerations Involved in Successfully Selecting Evaluation Questions

To ensure a credible evaluation, the evaluator must:

1. Review the program's goals and activities: When reviewing a program's goals and activities, the evaluator should become familiar with the interests and concerns of all groups who have a stake in the program and its evaluation: e.g., students, employers, teachers, administrators, or funding agencies.

2. Be responsive to the types of information that will be convincing as evidence of the program's success: There are many different ways to prove that a program has been successful: e.g., that its goals have been achieved, that it was managed so as to have no negative effects. Some ways include records of successful placements of students in jobs, successful performance of students on test of skills, and testimony of program graduates, employers, and parents.

3. Pose specific questions that the evaluation's audiences want answered: Evaluation questions can take the following forms:

- To what extent were the program's goals achieved?
- Were the program's activities implemented as planned?
- How effective were these activities in achieving the goals?
- For which groups was the program most/least successful?
- What did the program cost?
- How well was the program managed?
- How did external and internal social and political forces influence the program's development and impact?
- What social and political effects did the program have on the environment in which it was implemented?

4. Make sure that those participating in the evaluation under-

stand the procedures and products of the evaluation: The evaluator must make sure that appropriate participants understand what an evaluation is, the reasons for conducting the particular evaluation, how evaluation information will be used, and that necessary releases for use of information have been obtained from students or their parents;

Problems in Selecting Evaluation Questions

1. The evaluator may have difficulty in obtaining the cooperation of participants.

2. Access to program documents or staff for evaluation purposes can be limited or not possible because of privacy regulations.

3. The program goals may have been unclear or not measurably stated, and/or program activities may be impricisely described.

4. Different interest groups might be unable or unwilling to agree on the evaluation questions and on what constitute as evidence of program success.

5. The evaluation questions might not be on target because:

- there are too many/too few questions; or
- they do not lend themselves to adequate answers, given the time and money available.

A Case Example

An evaluator was hired for a cooperative education program in an inner-city community college. The college was five years old, and its staff and students were enthusiastic about the success the school had already achieved in placing students in a wide variety of jobs. The evaluator began his work by identifying a list of questions that appeared to be relevant to students and administrators. To be sure his expectations were correct, all cooperative education administrators and a large sample of students were shown the list of questions, and were asked to help refine them. At the conclusion of the review process, the evaluator felt certain that the results of the evaluation would be pertinent to all individuals involved in the program. Among the evaluation questions were:

- How many students were placed in jobs directly related to their training?
- Were there differences between men's and women's satisfaction with respect to their training?
- How much did it cost to provide training for each student who was placed in a job directly related to his/her training?

The evaluator submitted two reports: an interim report and a final report in June. Reaction to the interim report came from only a few administrators, but it was favorable. Reaction to the final report came from a wide variety of people, and it was somewhat unfavorable. Employers complained that the questions asked by the evaluation ignored some of their needs and problems, such as whether they were satisfied with their role in the program. Faculty also indicated discontent with the scope of evaluation questions. The situation described in this case example could have been avoided by initially submitting questions to or eliciting suggestions from all elements of the evaluation audience, i.e., faculty, students, administrators, employers...

II ORGANIZING INFORMATION COLLECTION

Planning information collection activities for an evaluation involves consideration of the evaluation questions, the information collection techniques, and the design strategy used to group and sample participants and to structure the data analysis.

Considerations Involved in Successfully Organizing for Information Collection

1. Techniques used to collect evaluation information: There are a variety of techniques that can be used to collect evaluation information, including interviews, questionnaires, rating scales, observations, record reviews, and achievement tests. Each has advantages and disadvantages, and the evaluator must determine which will yield the most reliable and valid information, given the inevitable constraints of time and money.

2. Design strategies used to group and sample participants: Frequently used design strategies for cooperative education programs should include case study designs, time series designs that compare the project population's present scores with those of previous year, and comparison group designs that include control groups, comparisons of gains when students have a high involvement with the project activities with the gains achieved when they have a low level of involvement.

3. Sampling: Sampling guides the selection of persons to be used in the evaluation and the assignment of these persons to groups. The evaluator must determine whether some or all eligible students, teachers, employers, administrators, or advisory committee members will be included in the evaluation, and whether or not they will participate in the new or traditional program.

Problems in Organizing Information Collection

1. The schedules of a program's participants, e.g., employers and teachers, do not always coincide with the evaluation schedule.

2. The most desired information collection techniques may not be the most reliable or valid, and they may be the most expensive.

3. The evaluator might prefer a particular design, but be unable to implement it because comparison groups are unavailable, students may move, data cannot be identified from previous years, etc.

4. Difficulties arise in obtaining information about eligible participants becasue of privacy regulations, inability to obtain participant cooperation, and mobility.

5. Career preference tests and interest inventories may be biased, thus, limiting the job options available to women and ethnic minorities.

A Case Example

For an evaluation of a cooperative education project at Webster City College, USA, the evaluation questions focused on the requirements of P.L. 94-482. Two were:

1. Was there a difference between men and women, with respect to their ability to find employment in occupations related to their training?

2. Did employers changes their views about students' ability and training from the beginning to the end of the program?

To answer these questions, the evaluator had to select reliable and valid information collection techniques, choose an evaluation design, and select a sample that was sufficiently large enough to produce all the needed information.

For the first question, the evaluator decided to use face-to-face interviews with some students and to send questionnaires to the rest. From the start, the evaluator was made sensitive to the possibility that some of the women might be angry about the relationship between their training and employment because they perceived their employment opportunities to be more limited than the men's. To ensure the precision of the findings, the evaluator planned to describe and clarify the extent of these feelings in the evaluation report. Further, the evaluator used a comparison group group design that can be illustrated as follows:

Men	vs.	Women
Ability to Find Work Related to Training		Ability to Find Work Related to Training

All students in the program were involved in the evaluation.

For the second question, the evaluator used telephone interviews as the major information collection technique. The evaluation design employed was a time series that can be illustrated as follows:

Beginning of Program	Employer's Views
End of Program	Employer's Views

All employers were included in the evaluation.

III COLLECTING INFORMATION

Collecting evaluation information is a large and complex task that has a direct bearing on the quality of the resulting evaluation information. Poor information collection instruments can yield invalid and possibly false information.

Considerations Involved in Successful Information Collection

1. Selecting, adapting, or developing instruments: The first step in collecting information for the evaluation of cooperative education programs involves the evaluator in selecting, adapting, or developing reliable and valid instruments to measure the effects of the program.

2. Hiring and training information collectors: Information collectors can be selected from the program staff itself, professional organizations, and the community. Once hired, collectors must undergo rigorous training.

3. Pilot testing information collection instruments and procedures: Before using information collection instruments and procedures, they should be pilot tested to help answer questions like:

- How accurate is the information obtained with the instruments (validity)?
- How consistent is the information obtained with the instruments (validity)?

4. Conducting information collection: Information collection can mean obtaining "clearance" from agencies like the U.S. Office of Management and Budget (OMB) and informing participants of the purpose and nature

of their cooperation.

5. Monitoring information collection: Information collection should be supervised to ensure that activities are being conducted correctly, and that all necessary data is being gathered.

Problems in Information Collection

1. Difficulties arise in identifying validated instruments, and development is expensive or time-consuming.

2. The best information collectors are unavailable or too expensive to hire or train.

3. A pilot test can be too small or inadequately performed to provide reliable information.

4. It is sometimes difficult to allot the necessary amount of time for clearance (often several months) of newly-developed instruments, and validated ones are not available.

5. Once informed, eligible participants may withdraw from the evaluation.

6. Difficulties arise in obtaining cooperation of participants.

7. Difficulties arise in collecting information from participants who move away or lose interest in the program after completing their formal participation in it.

A Case Example

Salem Community College is known for its excellent cooperative education program. It has a reputation for providing outstanding training in many fields, and is particularly proud of its Computer Technology Assistance Program (CTAP). For an evaluation of the productivity and impact of the first three years of CTAP the evaluator will be conducting interviews, sending out questionnaires, making observations, and administering achievement tests and attitude surveys. Because of the large number of different information collection techniques being used, the evaluator attempted to find instruments that were used in other similar evaluations. The purpose of the search was to save the time it takes to create an instrument. Unfortunately, only one achievement test and one observation form were found to be adequate. During the search, the evaluator discovered that at least one of the available attitude survey instruments was sex-biased in that it assumed that a repair of a keypunch machine or computer console was necessarily made by a male.

Having selected the information collection instruments, the evaluator

then submitted them to the Office of Management and Budget for clearance. Once the instruments were approved, a pilot test was conducted to ascertain their reliability and validity.

Information collection took four months. The evaluator carefully supervised the process, and in so doing, discovered that the people conducting observations were not uniformly using the form prepared for them. Thus, all observers were retrained in order to ensure that information collection was proceeding as smoothly and accurately as possible. Another problem was not so easily solved. In the three years since the start of the program, at least 20% of the participating students had moved, and no forwarding addresses could be obtained. The loss of this group was described in the final report, and the evaluator noted that there was no way of knowing whether these students were different from the rest in some important way and how their loss altered the accuracy of the evaluation conclusions.

IV PLANNING AND IMPLEMENTING DATA ANALYSIS

The analysis of evaluation information is the process by which all the data obtained during the various information collection activities are summarized and synthesized to produce answers to evaluation questions. Analysis methods range from the statistics-based techniques used by psychologists and sociologists, to the scholarship-based techniques often used by historians and anthropologists. All attempt to describe evaluation information in the form of tallies or measures of variation, and to explain evaluation information by identifying patterns and trends in events.

Considerations Involved in Successfully Planning and Implementing Data Analysis

1. Planning the data analysis: Analysis activities must be carefully planned to be technically appropriate, responsive to the evaluation questions, and in turn compatible with the design strategy and information collection techniques. The selection of specific analysis methods will usually be influenced by the evaluator's training and background and the resources available for the evaluation.

2. Major analysis techniques include:
   - descriptive statistics
   - correlation
   - regression

- analysis of variance
- chi-square

Descriptive statistics include averages, frequencies and measures of variation like the standard deviation. Correlations describe relationships between two variables, while regression techniques are used to examine the relationship between a criterion (dependent) variable and two or more predictors (independent) variables. Analysis of variance techniques are used to compare two or more groups in terms of a single variable such as achievement. The chi-square statistic can be used to compare two or more groups in terms of a dependent variable by testing whether it is plausible that the two sets of empirical data are random samples from the same population.

3. Conducting data analysis activities: Completion of analysis activities must include more than just the actual performance of the analysis. It must also involve:

- reducing the evaluation information to usable form
- pilot testing the information analysis activities
- conducting the analyses
- filing the evaluation information.

Problems in Planning and Implementing Data Analysis

1. The evaluation questions are unclear, and it is difficult to tailor the analyses to them.

2. The evaluator's personal training or background influences him or her to accept an expensive or otherwise inappropriate analysis method.

3. The design strategy has been improperly selected or poorly implemented, or the information collection techniques are unreliable or invalid, yielding uninterpretable results.

4. Too much information is collected, or it is badly reduced, delaying the performance of the analyst's tasks.

5. Pilot testing can reveal the need to revise some or all analysis techniques because the wrong data was collected, it is insufficient to provide the answers to the evaluation questions, etc.

A Case Example

The evaluation of Federal Union's cooperative education program included the following questions:

1. Was there a difference between students who participated in the program and those who did not, with respect to their performance on the Work Skills Achievement Test?

2. On the 100-item Work Skills Achievement Test, how many students achieved scores of 1-20? 21-40? 41-60? 61-80? 81-100?

To answer the first question, the evaluator conducted an analysis of variance (t-test) to determine if there was a statistically significant difference in the performance of participants and non-participants. For the second question, the evaluator prepared a tally of the number of students obtaining scores within each of the five categories. At the conclusion of the analysis, the evaluation data was stored for future reference.

V REPORTING INFORMATION

An evaluation report consists of the answers to some or all of the evaluation questions and an explanation of the procedures used to derive the answers. The evaluation report, whether written or oral, informal or formal, is an official record of the evaluation. It is through the report that the evaluator makes public the activities and findings. Thus, it is essential that the evaluation audience be given easy access to reports and that they be clearly written.

Considerations Involved in Successfully Reporting Information

To be credible, the evaluation report must be easily understood by all its readers or listeners, including faculty, students, employers, administrators, and funding agencies. In preparing the report, the evaluator should consider including the following:

- an introduction to the evaluation including its background, the evaluation questions, and limitations on the scope of the evaluation;
- the collection of evaluation information, including the design, sampling, information collection techniques, and limitations of the information collection activities;
- the methods used to analyze the data and their limitations;
- the evaluation findings, including answers to each evaluation question, interpretations, recommendations, and limitations on the findings;
- management concerns, like schedules and staff assignments.

The importance of each of these considerations will depend upon the

nature of the program, the evaluation, and the purposes for which the evaluation report will be used.

Problems in Reporting Information

1. Technical matters are sometimes difficult to translate into terms that all appropriate audiences (e.g., students, employers, and funding agencies) can understand without oversimplifying.

2. It is hard to assign priorities to the information so that only the most important is emphasized.

3. Reconstructing evaluation events can be difficult and time-consuming.

4. Evaluation reports sometimes appear overly critical or too full of praise, rather than providing a balanced view.

A Case Example

The final report of the evaluation of American Technical Institute's cooperative education program was submitted for review. The table of contents was:

I. Introduction to American Technical Institute

II. Evaluation: An Overview

- A. Evaluation: A Definition
- B. Improvement and Effectiveness Evaluations of Cooperative Education
- C. Evaluation Questions

III. Collecting Evaluation Information

- A. Information Collection Techniques
- B. Limitations on the Collection of Information

IV. Data Analysis

- A. Methods
- B. Limitations
- C. Results

V. Evaluation Findings

- A. Answers to Evaluation Questions
- B. Interpretations
- C. Recommendations
- D. Limitations

VI. The Evaluation Staff

- A. Personnel
- B. Calendar

The reviewers noted that the evaluator had omitted describing several important components of the evaluation and recommended that they be added.

Limitations on the scope of the evaluation were not included, the reviewers pointed out. Questions of cost and of effectiveness of the program over the five years of its existence were not addressed, for example, because the evaluation funds were simply not adequate to answer them accurately. But a reader without this knowledge might suspect that the evaluation was negligent, whereas, in fact, it was prudent.

Other omissions from the report included descriptions of the evaluation design and sampling procedures. The reviewers suggested the inclusion of these descriptions. They also recommended that the section on information collection include an explanation of the strategies used to establish the reliability and validity of each instrument.

VI MANAGING EVALUATION ACTIVITIES

Ability to manage and coordinate evaluation activities is essential, and at least some portion of the evaluator's time must be given to management. It is only through careful attention to schedules, tasks, and budgeting that the evaluator can assure teachers, students, employers, funding agencies, and advisory councils that they will get timely and usable answers to evaluation questions.

Considerations Involved in Successfully Managing an Evaluation

1. Establishing schedules: Evaluations are commissioned to be conducted within a given amount of time. To ensure the success of the effort, the evaluator must determine when each evaluation activity will take place, the sequence of the activities, and how long each will take.

2. Assigning staff to activities: In order to assign staff to specific evaluation activities, the skills needed to perform each activity must be identified so that the staff members with those skills can be assigned appropriately.

3. Budgeting: To prepare an evaluation budget, the evaluator must weigh what needs to be done against the amount of money that is likely to be available. Invariably, activities, time allocations, and staff assignments are modified during the development of the budget.

Problems Involved in Managing an Evaluation

1. There is never enough time or money to do the perfect evaluation!
2. Trained staff may be difficult to find.

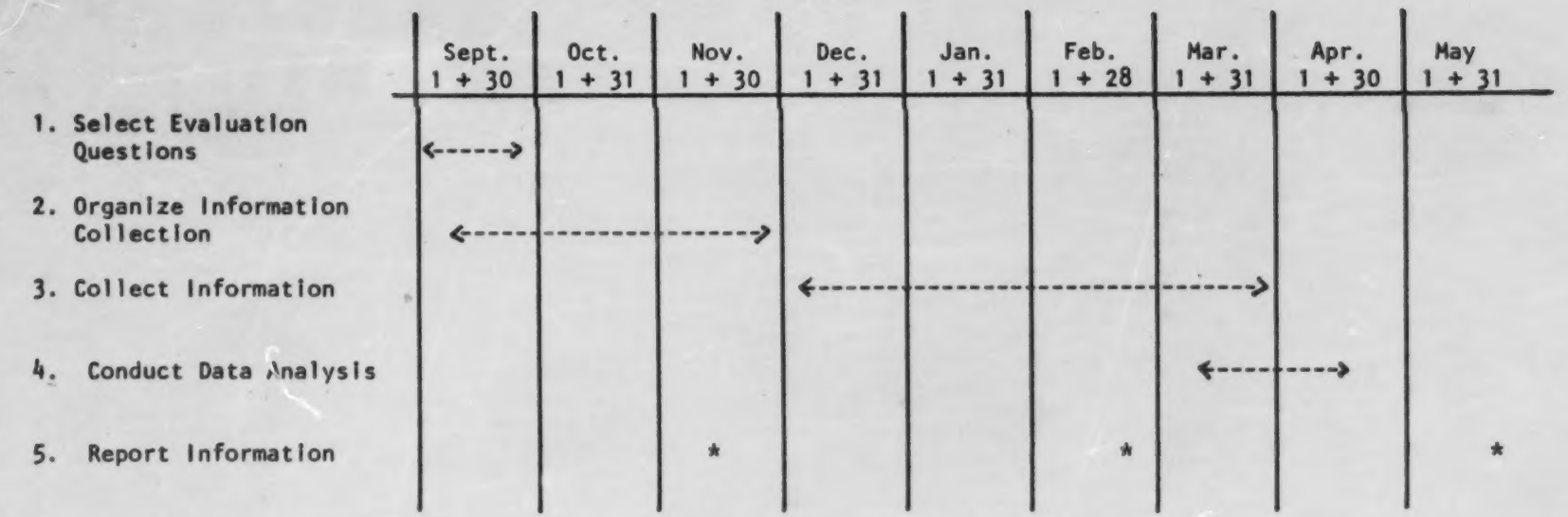
A Case Example

A nine-month evaluation of a new cooperative education program to train people for the health professions was commissioned. The cost allotted to the evaluation was $20,000. The evaluator worked out the following budget and schedule.

EVALUATION BUDGET

I.	Direct Costs	
	A. Salary and Wages	
	1. Donald Smith, Ed.D., Evaluator: 20% time for 12 mos. @ $2,000 per month	$4,800
	2. Roberta Clark, M.Ed. Research Assistant: 50% time for 12 mos. @ $1,000 per month	6,000
	3. Joan Thompson Secretary: 20% time for 12 mos. @ $800 per month	1,920
	4. Fringe benefits(social security, health insurance) @ 20% of salary and wages ($12,720)	2,544
	B. Supplies: paper, typewriter ribbons, cassettes	300
	C. Printing and Reproduction (questionnaires, reports)	400
	D. Computer Costs (data analysis)	250
	E. Telephone and mail @ $10 per month	120
	Subtotal	$16,334
II.	Indirect Costs: 20% of Direct Costs	3,266
	TOTAL	$19,600

EVALUATION SCHEDULE



CHAPTER IV

COUNSELING CHECKLISTS

In Chapters IV, V, and VI, three checklists are provided:

- Counseling
- Program Activities
- Performance and Cost

Each checklist has been designed so that the cooperative education administrator can evaluate the reliability, validity, and efficiency of existing instruments designed to appraise the impact and productivity of their programs or to develop appropriate evaluation designs and techniques in the respective areas. The topics for each checklist were derived from information obtained from interviews with program directors, all of whom rated each as being extremely important to the evaluation of post-secondary cooperative education efforts.

The checklists have deliberately been prepared to be brief and easy to use, while at the same time to be as comprehensive as possible. The reader is referred back to Exhibit I-1 in Chapter I for a review of the several evaluation checkpoints for which the three evaluation checklists have been developed in the next two Chapters.

Since the checklists are also flexible, no one program would make use of every item on all checklists. The program administrator should use only what is applicable to his or her own program. There are, naturally, space, time, and budget considerations involved in implementing the suggestions contained in the checklists, as they present characteristics of ideal evaluation efforts, i.e., goals to be worked towards gradually.

I COUNSELING FUNCTION

Because of the critical nature of the counseling function in post-secondary cooperative education programs and its relationship to other evaluation checkpoints (e.g., job matching, diagnosis, etc.) a rather detailed and comprehensive checklist has been developed, with discussion of major issues preceding it.

II OVERVIEW AND ISSUES

The way a cooperative program is both structured and managed may make the difference between a program which matches students with jobs based on the student's background and one which matches students with jobs simply because a job is open and the student needs money. If a student has an interest in an area the student will perform better on-the-job, leading to greater employer satisfaction and hence, employer re-enlistment in the program. If a student is pleased with the job situation, he or she will probably do better in courses and vice versa.

1. Who directs or manages the cooperative program? In some colleges the cooperative program is managed by the financial aid staff (National Association of Student Financial Aid Offices, 1975). Several problems arise from this situation. The financial aid officer is not trained in helping students decide on career paths, linking interests and skills with jobs, etc.

The instructional faculty could also structure and manage the cooperative program. However, the faculty rarely has the staff or time necessary to handle the details and follow-up required for this program's success. In addition, they may not have the skills needed to help students decide on career paths nor help them match job skills with coop jobs.

The placement officer might structure and manage the program. If this occurs, it is imperative that there be an active follow-through program to help students during the cooperative program. The placement officer may not have the staff to do this. Unless the cooperative program had a high priority in the placement office, cooperative students might not get the requisite attention or maximum benefit of a cooperative education experience. The placement officer might be reluctant to handle problems with an employer since this might limit future jobs or recruiting for permanent employees. The evaluation of the placement office may be predicated on the number of students placed in jobs rather than how many students are placed in jobs that relate to their career goals.

The cooperative program could be managed and directed by the student employment office. After all, it is a paid work experience. However, it is more than this. It is a learning-growing experience. If a student is seeking financial aid only, then the student employment office might be of help. However, the cooperative education program's purpose is to provide an opportunity for the student to link a job experience with a learning

experience to use as a framework for testing or preparing for a job. Most student employment experiences tend to be dead-end jobs without provision for upgrading or upward mobility.

The cooperative program could be managed or directed by the counseling officer. This would provide the student with an opportunity for self-exploration and career exploration. However, if the cooperative program were the responsibility of the counseling department, it would be imperative that the counselor or counselors working with the students have training in vocational counseling. Many counselors are trained in a therapy milieu and do not have experience in vocational issues (Hilliard, 1977).

One solution would be to have a special cooperative staff with input from the financial aid office, instructional faculty, placement office, student employment office, and a strong counseling component. This might be the best of all worlds but only if a strong liaison among all these elements is or can be a reality without the problem of "turf fighting".

2. Who generates cooperative jobs? The generation of cooperative jobs is a critical ingredient in the cooperative program. Cooperative jobs may be developed in many ways. However, since a job with potential to be upwardly mobile is required, the job developer should understand the job market, employers' objectives, and types of jobs that will provide students with a growing experience. Often students are left to fend for themselves and told that if they are interested in participating in the cooperative program, they should find their own jobs(National Association of Student Financial Aid Offices, 1975). Students may not have the resources or background knowledge with which to do this.

A professional job developer may be an ideal solution. This person should be knowledgeable in current employment trends and be able to work easily with employers. Other offices such as the placement office, the student employment office, or former cooperative students could provide leads to jobs. Student employees might serve as interns to help locate jobs. Generally, they probably would not have the background expertise to handle the details of job development. However, job developers might be paid staff hired by the student employment office. The entrepreneurs among these students might want to work on a commission basis.

3. Who evaluates cooperative jobs in terms of skills and job relatedness? Evaluation of the cooperative job in terms of skills and

job relatedness is a sophisticated task. More will be said later about matching course work with job skills. Yet, it is essential in terms of running an effective cooperative program where skills are related to jobs. For this task, a person trained in vocational development is needed.

4. How do students learn about cooperative programs? Too often students blunder into the cooperative program simply because they can not get financial aid elsewhere or think that it might be interesting. No one knows how many more students might enter the cooperative program if they knew about it and it was given a high priority at the school. Certain schools do emphasize the cooperative program and have large segments of their students enrolled in a cooperative program.

Students should be exposed to all of their options for financial aid. This might be handled through materials mailed to students prior to a students entering the College, interviews with perspective students in the financial aid office, and/or as a part of orientation to the school. However, students should be aware that the cooperative program is not just an optional way to make money, but a means to explore jobs or careers. In this framework, before students enter the cooperative program, they should talk with a counselor about their vocational goals. Generally, it is the counselor who has the experience to help the student in this area. Most of the people in the other choices listed do not have the background or expertise to help a student fully understand the steps in self-exploration, career exploration and career development.

5. How does a student match her or his vocational development with cooperative jobs? When there is no one to advise a student about the jobs offered in the cooperative program, the match occurs by chance. Many students may not even be familiar with the range of skills they may need in various careers and how one job experience may be similar to another with different titles or what seems different on the surface (National Association of Educational Progress, 1976).

There are several systems to help students make a match between their interests and jobs available, special tests of interest, computer matching programs, etc., but it is essential that the student have an opportunity to discuss the results of interest inventory tests or the computer printout on her or his individual form with a person who can bridge the gap between the individual and what is offered (Stebbins, 1976). This is a critical step.

Talking with employers may help, but too often the employer does not have the time to present the options to studnets. Friends or family may provide some help, but with disadvantaged students in particular, this option does not usually provide much positive information. The placement director probably does not have the time to help the student come to clearer decisions about some hazy career potential. As a conclusion, it is generally the vocationally-trained counselor who could provide the help.

6. If students were not able to secure cooperative jobs, to whom can they turn for help? The answer depends on why the students did not get jobs. If the students needed the cooperative jobs solely for financial support, they should be referred to the financial aid officer, who could possibly package another type of plan for them. If the students were not able to secure a job because there were no jobs in a field of interest to them, then the counselor or advisor should be able to suggest other options including summer employment, internship following graduation, volunteer work, etc. Perhaps other courses could help the student become more employable. The student might have to travel outside of the area. The exploration of options such as these may best be handled by a person with experience in job variables. A student may be hindered from gaining a position because of a personal problem or self-defeating behavior. It would be the job of a counselor to help the student explore what the problem is and work out ways to help the student overcome this behavior or refer the student to other counselors or agencies for help.

7. To whom can students turn for help during the program? When students encounter roadblocks, they need someone to talk with and help them find solutions to their problems. On some occasions the problem may be employers' unrealistic demands or an employer's attitude. In these cases, the person running the cooperative program should talk with the employer or bring the employer and employee together in a neutral atmosphere to air the problem and help them work out a solution. Perhaps it is the employee's attitude or self-defeating behavior, as discussed above, that is the problem. In this case, the person running the program should either counsel the student or call upon a counselor or outside agency for help.

8. To whom can students turn for help in evaluation of their

experience? Once students have completed the cooperative program, they should have the opportunity to evaluate their experience in terms of their personal and vocational goals. Perhaps the experience taught the student that the area he or she worked in was not suitable. In this case, another round of career exploration might be necessary, or another type of employer might lead the student to a different conclusion.

Perhaps the student has time to re-enter the cooperative program, so the cooperative director could help the student find another cooperative job that might provide a more positive experience to advance the career goals the student has reformulated. If there is not time, the student should be directed to a potential employer, or at least be given directions on what the next options might be. Assertive students might profit from reading and doing the exercises in books such as Go Hire Yourself an Employer (Irish, 1973).

Evaluation of the program for the student is as important as evaluation of the cooperative program by the school. Without evaluation, students lose their way and may not understand how their experiences contributed to their goals.

9. Where can students get additional up-to-date information on other aspects of this career or related careers? The school should offer an up-to-date career library. As long as the student has access to the material, the location of the library may be unimportant. To ensure maximum access, various libraries may be located on a large campus. Instructional staff should be encouraged to obtain such material and put it into a central display or departmental display that is available to the student located, perhaps, in the school library or counseling center.

Many career libraries are woefully out of date. This presents several problems: much of the older material is sex biased; the salary or wages suggested may be out of date; new equipment or opportunities might not even be mentioned. A member of the cooperative staff should have the specific duty of working with the regular counseling staff to ensure that the career material is current and non-biased.

Use of a computer terminal may help the student gain access to current career information. The state employment office also should have figures by the state or region on employment. However, it may not be in the most useable form.

10. Who keeps records on success of the cooperative program? In a

school with high personnel turnover, it is important that the record-keeping system be independent of any one individual but the responsibility of a designated category of persons. Too many programs flounder because of inadequate records. It is important, however, that adequate secretarial or clerical staff be available to free the professional cooperative staff of the burden of paperwork. To expedite the paperwork, forms should be designed to be efficient and not duplicative. Whoever keeps records on the program should understand the Students Right to Privacy Amendment. Thus, records should be the responsibility of a professional staff. Cooperative records should be kept in one place.

11. A breakdown of all the following records by sex, race, ethnicity, handicap, and age group is necessary. It is important that records on the success of the cooperative program be kept by the variables of sex, race, ethnicity, handicapped, and by age groups. Examination of such records will permit a school to determine if they are in compliance with the Vocational Education Act of 1976, Title IX of the Education Amendments of 1972, and civil rights statutes on race and the handicapped.

Status records kept by broad age-groups will help the school determine if those people experiencing mid-career changes, or women returning to the work force, are placed in cooperative programs as regularly as younger students. It would be important for a school to assess how well it functions for these groups.

Examination of the results of such records will permit a school to see how well it is meeting the needs of its constituents. It may be found that fewer women drop out of cooperative programs if they receive counseling that helps them cope with triple career stituations of being mothers, students, and employees(Wirtz, 1974; and Stebbins, 1976). Perhaps handicapped students who received counseling were more readily accepted by employers than those who did not. The results of this record-keeping may be instructive for the re-direction of the entire cooperative education counseling program.

12. Necessary Records:

(a) Percentage of placement in cooperative jobs after counseling compared to percentage of placement without counseling. Assuredly, numbers alone may not be the answer since 100 students placed in cooperative jobs may have 100 mismatched, unrewarding experiences based simply on taking the first job, without counseling. Again, if there are insufficient numbers of cooperative job options open to students, this figure and counseling for the few jobs may be irrelevant. However, the numbers may be the beginning of the story. The evaluation of the program should look at the numbers in an attempt to discover how they were generated.

(b) Percentage of attrition in cooperative program after six months for those who received counseling compared to those who did not. According to Karabel, only 38% of the students enrolled in community colleges complete the course in four years (Karabel, 1972). The percentage of attrition from cooperative programs is not known (Abramowitz, 1977).

(c) Satisfaction of students with cooperative job match when they received counseling compared with students who did not. Since satisfaction is a subjective term, it is difficult to measure on an absolute scale. However, some of the numbers generated by the previous question may provide the answer. Simply asking students the following questions may provide another measurement: "Are you satisfied with the match between your career plans and your cooperative job? Did counseling help you in this match?," and the addition of the question, "What did counseling do to help you?," might provide some clue to those elements of the counseling program that are most successful.

(d) Satisfaction of employer with cooperative job match of those students who received counseling compared with those who did not. Match the employers' response to a simple question, "Are you happy with the work and attitude of your cooperative student?" into two categories: those students who received counseling and those who did not. An examination of the two

categories should provide an answer.

(e) Salary received by former cooperative students compared to those in similar jobs who did not participate in cooperative programs.

(f) Percentage of cooperative students who hold jobs in their area of interest after college compared with percentage of non-cooperative students who hold jobs in their area of interest after college. The placement office, in their follow-up, should gather this material and then provide it to the co-operative program director, who could give it to the counseling department for analysis.

III COUNSELOR-STUDENT RELATIONSHIP

1. The counselor's attitude reflects respect for the student. Basic to any effective counseling program is respect between the counselor and the person counseled. This is not a simple matter but may be achieved by a white counselor working with minorities to help minority students overcome hostility or disbelief that a white counselor will be able to address their problems.

A similar caution is also important for those men counseling women. Frequently, women returning to school may be unable to articulate their needs in traditional terms but need to be encouraged and have someone help them translate their skills and abilities into job categories.

2. Ways are provided to help students explore their self-identity and personal goals. Often students have very unrealistic or confused attitudes about themselves. Many have never thought coherently about their possible strengths and weaknesses. If a student is able to do this without much difficulty, then a book such as Where Do I Go From Here With My Life (Crystal, 1976), or a similar one, might be useful.

However, if a student has identity problems or fears about achievement (Healy, 1974), then such an approach may be limited, and a more guided, structured approach should be used. This might include several of the tests or computer matching programs on the market. It might also include group counseling sessions, perhaps including parents or spouse (Stebbins, 1976).

3. Ways are provided to help students learn about career clusters. The idea of career clustering is not a difficult one. It can be explained through a large poster on the bulletin board, or simple memeographed handouts. The advantage of this approach, regardless of which

set of career cluster approaches is adopted, is that it provides a structure for the student in choosing an approach. Many commercial products now on the market apply an occupational or career cluster approach.

4. Counselor explains ladder approach to careers and the tendency toward frequency of job change and job mobility. The trend in education and careers is less rigid than in previous times. Many students begin college, drop out, and later return to college. Most careers are structured so that a person with little experience begins at the bottom and through more experience or education advances vertically in a career. However, in a tight labor market there is more horizontal advancement. When a person feels hemmed in by a job, it is time to consider getting a new job. Students may not be familiar with building up skills and contacts on a number of jobs, then moving on to other jobs that require more skills. The concept of vertical and horizontal mobility should be explained to students.

The average number of jobs each person holds during his or her lifetime is five, with the number increasing. Several individuals have complete career changes as well as job changes.

5. Information is provided on various lifestyles and their consequences. Many careers involve different lifestyles. Students should have knowledge of the consequences of a certain career when making vocational choices.

6. Counselor provides some information on all career potentialities to both men and women and people of minority groups. Counselors may need training in sex-fair and race-fair concepts to understand what this means. In the past, it was thought that certain jobs were only appropriate for one sex or race (Stebbins, 1976).

A three-page checklist on implementing a sex-fair career guidance program is in Sex Fairness in Career Guidance: A Learning Kit (Stebbins, 1976).

Many women and minorities may be reluctant to think about non-traditional careers because of prior socializing. Women need to see role models in career material. Women and minorities may need additional counseling to help them break their own anti-achievement atititudinal barriers prior to discussion of careers (Irish, 1973; and Crystal, 1974).

7. Counselor has current information on various careers and has

evaluated it for sex- and race-fairness. Examination of career material, be it commercially prepared or industrially supplied, should be instructive. How many women are pictured in non-traditional jobs? How many minorities are in these positions? is the masculine pronoun used exclusively? Much current career material is more sex-fair than that of ten years ago (Burnett, 1975). Currenty information is also necessary because many entry level or technical jobs have emerged or shifted considerably in the last decade.

A useful list of career materials is in Sex Fairness in Career Guidance (Stebbins, 1976). However, counselors should supplement the material by contracting industries or groups participating in the cooperative program to get career information. Other information sources include local, state, or national industries, their trade associations, or unions.

8. Counselors help students evaluate cooperative jobs in terms of skills required. The employer should supply a description of the job which is broken down into skills. A job description which is not described in skill terms should be analyzed by instructional faculty or persons knowledgeable in the area to break it down. Once this is done, if a student has a choice among several jobs, it would be easier to make a decision on which job would offer the student more opportunity in an area that he or she is seeking.

9. Counselor works with students in developing job attack skills. Students may be turned down for a cooperative job if they do not present a favorable image to the employer. The counselor should help students or provide paraprofessional help for students in resume writing, interviewing, follow-up, selecting references, etc. (Irish, 1973; and Crystal and Bolles, 1974).

Many counselors see this step as beneath their professional duties. However, it often makes the difference between a student obtaining a job or being unemployed. Such skills might be taught in a required short-term course for cooperative education students.

10. Counselor helps students plan course(s) to take that would help fulfill vocational objectives and cooperative requirements. Generally, a student has a choice of several paths. The counselor should be able to show students the consequences of each course; i.e., to complete a graphic arts major, a student could take a course in fine arts or technical draw-

ing. The counselor could help the student see which choice would help make him or her more employable in terms of the types of cooperative jobs open and the skills employers require. This may be one of the critical areas of decision for the student, hence theneed for the counselor to be well-informed about the content of the courses offered and the relationship between the courses and the world of work.

11. Counselor acts as ombudsperson for the student with the administration, faculty, and employer. The role of the counselor as an ombudsperson is a vital one. The counselor should intercede on behalf of the student to allow the student to register at a different time if the one time allowed cannot be met by the student, to allow the student to take a needed course out of sequence or when the course is over-subscribed, etc. Frequently students become lost in the mechanization of the computer world of the college and feel powerless to take steps to straighten things out. The counselor could either help directly or oversee and direct the student in unravelling the confusion.

A student may need special help from a faculty member but be afraid to ask, so the counselor as ombudsperson might intercede here, too.

If an employer makes unrealistic demands upon a student, the student may be powerless to refuse because a grade hinges on the employer's evaluation. Here too, the counselor should step in and not provoke a situation but, acting as an arbitrator with a bias toward the student, the counselor should try to help the employer and student come to a resolution. A model for doing this might be adapted from the role of mediator in integrating a school (Lincoln, 1976).

12. Counselor helps students with problems as they arise during the job. For many students, this cooperative job may be their first job experience. As such, they may not understand proper behavior on the job, dress, attendance, or need to be on time. Such problems might be ironed out better in a course prior to the cooperative job, but when they are not or when they re-appear, the counselor should have sufficient contact with the employed students to call them in for a chat to help them succeed better. If the job demands are more skilled than the student can handle, the counselor might go to a faculty member in the student's field and discuss the problem to see if the job could be broken down into simpler

components or if someone could tutor the student to help him or her do the job.

13. Counselor helps students evaluate their experience after a cooperative program has ended in terms of permanent employment options and preferences. Once the cooperative program has ended, evaluation of the experience is essential. In many cases, the student receives a grade or credit for the experience but there is not discussion of what the experience taught the student. Perhaps, evaluation might reveal that the experience was atypical and other jobs in this area might be different, or the student did not enjoy the work and the result of the cooperative experience was learning that he or she did not want to work in that area. At that stage, it is important for the student to begin the career evaluation steps once again. The student may have an opportunity for another cooperative experience, or the student may decide to switch fields of study. The counselor should be able to provide a framework to help guide the student in a post-job process of sorting out thoughts and experiences to build toward the future.

Then the counselor should, either by working closely with the placement office or by functioning as a knowledgeable job market expert, be able to tell the student about the opportunities in various fields in the local area, state, and nation. Perhaps such a post-cooperative experience discussion will help students find a relevant job.

IV COUNSELOR-ADMINISTRATION RELATIONSHIP

Counselors are in a position to see scheduling conflicts. For example, a required course in English may only be offered during the spring semester, but this is when some students are on the work phase of a cooperative program. The counselor could recommend ways to resolve this dilemna and eliminate it in the future. Registration for courses for the next semester may occur at a time when the student is off campus on the cooperative job; hence it may be necessary to let cooperative students register by mail or give them preference by early registration.

Affirmative action is imperative in all aspects of the college but it should especially be so in the cooperative program. The administration should be taught that numbers alone in placement do not evaluate a program. The numbers should be balanced by a substantial number of minorities, wo-

men, and handicapped individuals in non-traditional jobs. Examination of records suggested in the overview will provide a valuable means for evaluation.

The cooperative program's counseling staff should meet the college's affirmative action program; i.e., should be balanced in terms of minorities, women, and handicapped. Counselors should help administrators with the paperwork on Title IX, the specific recordkeeping required for the Vocational Education Act of 1976, and other civil rights laws as they relate to the cooperative program. Then, these records should be used for an institutional self-evaluation.

Is the caseload of the counseling staff realistic for the job that is supposed to be done? Does the professional staff have the necessary support staff to handle the paperwork and other duties? Examination in this area could result in cost savings and better development of resources. Other cost-saving measures might include use of paraprofessionals or peer-counselors to do routine tasks. However, it is vital that these people receive training from the counselors and supervision by them.

It is also important that cooperative counselors refer students who need other types of help to other counselors or agencies for it. However, students should not feel fragmented by the various types of counseling or help they receive, so either the cooperative counselor or another individual should have responsibility for the total individual, to bring together the various needs the student has into one wholistic set of records and in one person who would have an overview of the total person. Counselors should keep in touch with what is happening in other types of counseling programs.

It may not always be cost-effective to counsel students individually. Group counseling is a growing popular option. However, counselors must be trained in group counseling since the dynamics of a group are different from one-on-one counseling situations.

V COUNSELOR-FACULTY RELATIONSHIP

The cooperative education program depends on the course work that students take in conjunction with their job experiences. The counselor can serve as the link between the two elements: school and job.

The counselor as ombudsperson, can discuss individual student's pro-

blems with faculty members. Then, based on feedback from students, the counselor can help instructors modify their courses to make them more job-related. If this is a known part of the counselor's job there would be less faculty resentment to it. At the beginning of the year, the counselor might lead a faculty discussion on the cooperative education program and ways to make courses more job-related. The counselor who receives feedback from students and employers might, for example, discover that the type of printing presses used in the schools are no longer used commercially, so the students taking printing classes would not necessarily have a successful cooperative experience.

Counselors might be used as resource specialists to help faculty members eliminate racial and sexual prejudices. Faculty in technical fields might learn how to encourage women to enter their courses.

"Faculty don't normally become involved in career advising or counseling with students because of a lack of motivation, their attitudes towards education and work, or insufficient knowledge. However, faculty involvement as student advisers at the University of Northern Iowa changed this" (Routh, 1977). The change resulted from faculty getting feedback on unemployment, job satisfaction and campus recruiting, attitudes of graduates classified by major, identifying whether they expected to change jobs next year, and how satisfied they were with their employment and average starting salaries.

"Instead of complaining about faculty indifference, placement officials and counselors can develop programs to affect faculty attitudes, motivation, and knowledge. Conducting career conferences exclusively for faculty, sharing employment and career information with departments, developing resource materials classified by major, and arranging visitation programs are just a few approaches that help faculty become more involved in career planning and placement activities," Routh concluded (Routh, 1977).

VI COUNSELOR-EMPLOYER RELATIONSHIP

The success of the cooperative education program depends on the number and variety of jobs available. Part of the job of the counselor should be job development. It would work best when the employer gets to know and trust the counselor for his or her integrity in sending students who can fulfill the needs of the job and not burden the employer with much

unnecessary paperwork. Yet the counselor has a responsibility to provide sufficient help and background information for the employer to understand his or her responsibilities to the student. This would include information on non-discriminatory hiring, promotion, and ways the evaluation of the student can be conducted.

It is also the counselor's responsibility to bring the employer or employer's groups, such as the Chamber of Commerce, or business-social groups, such as the Jaycees, to campus to meet with the faculty and explain the realities of the workplace. The counselor could well serve as a vital person on a vocational education steering committee or advisory council for the region or area.

Counselors could enlist the goodwill of employers by inviting them to the campus to meet with students in job affairs or in individual sessions prior to recruiting. This building of bridges would probably lead to greater satisfaction with the program on the part of the employer.

Nothing succeeds like success. Employers who felt that the program was successful will continue to participate in it and may encourage other employers to enter it. When employers drop out of the program in large numbers, it is time to re-evaluate the program and see what went wrong. It may be possible for the counseling staff to remedy the problem. Programs that are successful are well publicized. Encourage the school newspaper to carry articles on the cooperative education programs and local employers. Have the cooperative education staff meet with community groups to explain the goals of the program and how it is functioning.

VII COUNSELOR PREPARATION AND BACKGROUND

1. Does counselor hold a degree in vocational counseling, or at least one course in it? While a degree is no guarantee of an effective counselor, it would provide the person with a framework for understanding the steps in helping a person choose an appropriate career and make an appropriate match between a cooperative job and a person's personality and skills. Counselors tend to be trained in individual problem counseling. This presents a problem when a counselor is called on to perform vocational counseling which some counselors see as a job for a paraprofessional. If a person had a limited vocational counseling background, in-service experience and supplemental reading it might help a person gain experience.

If a counselor has not been exposed to the new legislation's requirements regarding sex fairness, race fairness, and handicapped fairness, it would be wise to contact any of various groups knowledgeable in this area to put on a seminar or workshop. A list of participants in the Sex Equality and Guidance Opportunities Workshop might be one place to start. Contact with local National Organization for Women might produce other ideas. Workshops are also sponsored by various professional groups and commercial enterprises.

2. Is counselor a member of professional counseling organization concerned with vocational guidance? Such an organization might be National Vocational Guidance Association, or the American Vocational Association. Through reading of professional literature, attending workshops, and by discussions with other professionals at meetings, a person can become up-to-date and do a better job.

Affiliation with such a group might offer the counselor a non-fearful method of evaluation by peers, perhaps by observation, role-playing, or video-taping of interviews.

3. Does counselor have any paid work experience other than in education? To work in a cooperative program, a person should understand the demands of paid employment, preferably in technological or mechanical occupations. Many schools require that their vocational teachers have practical experience in their field and not simply be educated in the area. A similar requirement should be mandated for counselors.

4. Is counselor familiar with at least four tests of career guidance inventories? Does counselor understand differences in their make-up and purpose? Simply giving a student a test of career interest is not adequate. The right test should be chosen and then fully discussed with the student.

A counselor who uses only one test for all students may be short-changing the students and not fitting the test to the student. A full discussion of this problem appears in the Sex Fairness in Career Guidance chapter on "Guidelines and Recommendations for Sex-Fair Use of Career Interest Inventories" (Stebbins, 1976).

Career interest inventories are only one source of information useful for the career selection. Student values, personalities, aptitudes, achievements, aspirations, family and educational background, are also extremely important to decision-making.

5. Has the counselor experience or training in counseling women for non-traditional jobs? Generally, in order to be receptive to a non-traditional job, a woman must have confidence in herself and her ability to make decisions. This may require personal or group counseling or assertiveness training. Then, a woman must realize how her early socialization process has affected her, how she should not fear a career or earning a high salary, and that she can combine a career with being a wife and mother (Stebbins, 1976). It is then important for her to read or see occupational information that is non-sexist, especially that which is sex-fair and shows women in non-traditional careers.

The counselor should feel comfortable about recommending non-traditional careers. The counselor has an additional responsibility to be aware of when counseling minority women (Yu, 1976).

Specific exercises for counselors are discussed in Sex Fairness in Career Guidance, in the chapters on "Encourage clients to explore challenging, perhaps non-traditional career options" and "Explore with clients possible conflicts and problems they may encounter when entering a new career area" (Stebbins, 1976).

6. Is the counselor aware of Title IX of the Educational Amendments of 1972 as it relates to counseling and other aspects of the cooperative program?

"A recipient (of Federal funds -- practically all educational agencies) shall not discriminate against any person on the basis of sex in the counseling or guidance of students or applicants for admission.

"A recipient which uses testing or other materials for appraising or counseling students shall not use different materials for students on the basis of their sex or use materials which permit or require different treatment of students on such basis unless such different materials cover the same occupations and interest areas and the use of such different materials is shown to be essential to eliminate sex bias. Recipients shall develop and use internal procedures for ensuring that materials do not discriminate on the basis of sex. Where the use of counseling test or other instrument results in a substantially disproportionate number of members of one sex in any particular course of study or classification, the recipient shall take such action as is necessary to assure itself that such disproportion is not the result of discrimination in the instrument or its application.

"Where a recipient finds that a particular class contains a substantially disproportionate number of individuals of one sex, the recipient shall take such action as is necessary to assure itself that such disproportion is not the result of discrimination on the basis of sex in counseling or appraisal materials or by counselors."

Title IX regulations affect other aspects of the cooperative education program, for instance, the need to provide equal kinds and amounts of financial assitance. When employment is made available to students through the school itself or through an outside employer or agency, it must be without sexual discrimination. In fact, the school shall not provide service to any agency, organization, or person which discriminates on the basis of sex in its employment practices. Specific guidelines are also laid out for prohibition of discrimination on the basis of sex in employment, in education programs and activities. This covers participation in such activities, application for them through recruitment, advertising, hiring, upgrading, promotion, job assignments, classifications and structures, granting and return from leaves of absence including pregnancy and child care, as well as pre-employment inquiries as to marital status of applicant.

7. Is counselor aware of Title VII of the Civil Rights Act as it relates to counseling and jobs? The U.S. Equal Employment Opportunity Commission has issued "Guidelines on Discrimination Because of Sex." Previously this law was restricted to prohibition of discrimination because of race or ethnicity; now it covers sex, age, and handicap.

The rules explain the statement that "sex as a bona fide occupational qualification" is suspect because it tends to deny employment opportunities unnecessarily to one sex or the other. This includes the refusal to hire a woman because of her sex based on the assumptions of the comparative employment characteristics of women in general; i.e., the assumption that the turnover rate among women is higher than among men.

There is also a prohibition against the refusal to hire an individual based on stereotyped characteristics of the sexes; for example, that men are less capable of assembling intricate equipment, that women are less capable of aggressive salespersonship. The principle of non-discrimination requires that individuals be considered on the basis of individual capacities and not on the basis of any characteristics generally attributed to the group.

It is also illegal to refuse to hire an individual because of the preferences of co-workers, the employer, clients, or customers. When state laws are more restrictive on the basis of the sex, i.e., lifing weights, hours of work, time before and after childbirths in which employment is allowed, such laws are superceeded by this law.

VIII GENERAL QUESTIONS

Before providing a detailed checklist to determine the extent to which a program satisfies the criteria detailed above, an institutional examination of some general questions would be in order. Check (✓) the answer which is true in your situation. If no one is assigned this task, the cooperative program may not be providing students, employers, or faculty with enough help.

1. Who directs and manages the cooperative education program?

   Counselor
   Financial aid officer
   Instructional faculty
   Placement officer
   Student employment officer
   Special cooperative officer
   Other

2. Who generates cooperative jobs?

   Counselor
   Financial aid officer
   Instructional faculty
   Placement officer
   Student employment officer
   Job fair
   Students interested in the cooperative program
   Former cooperative students
   Student employees
   Other

3. Who evaluates cooperative jobs in terms of skills and job-relatedness?

   Counselor
   Financial aid officer
   Instructional faculty
   Placement officer
   Student employment officer
   Other

4. How does student learn about the cooperative program?

   Counselor
   Financial aid officer
   Instructional faculty
   Placement officer
   Student employment officer

Student newspaper
Other students
Employer
Part of campus orientation
Skills center
Other

5. How does student match his or her vocational interest with cooperative jobs?

Chance
Interest inventory
Computer program
Talk with employer
Talk with peers
Talk with counselor
Talk with instructor
Other

6. If student was not able to secure a cooperative job, to whom can she or he turn for help?

Counselor
Financial aid officer
Instructional faculty
Placement officer
Student employment officer
Other

7. To whom can student turn for help during the program?

Counselor
Financial aid officer
Instructional faculty
Placement officer
Student employment officer
Peers
Other

8. To whom can the student turn for help in evaluation of experience?

Counselor
Financial aid officer
Instructional faculty
Placement officer
Peers
Other

9. Where can the student get additional up-to-date information on other aspects of this career or related careers?

School library
Counseling center
Computer terminal

Public library
Occupational information service
State employment office
Other

10. Where can student get information on current job prospects in this career?

Counseling center
Instructional faculty
State employment office
Financial aid office
Placement office
Student employment office
Other

11. Who keeps records on success of the cooperative program?

Cooperative program director
Counseling staff
Financial aid staff
Academic faculty
Placement staff
Student employment staff
Other

IX COUNSELING CHECKLIST

The detailed checklist follows. For instructions on how to use this checklist, see Appendix I.

COUNSELING CHECKLIST: RECORDS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The records of the counseling function:												
1. are kept by sex, race, ethnicity, handicap, and age group.												
2. reveal the percentage of placement with counseling and without counseling.												
3. reveal the percentage of attrition from the program with counseling and without counseling.												
4. reveal the satisfaction of students with the job match with counseling and without counseling.												
5. reveal the satisfaction of the employer with the students who had counseling and with those who did not.												
6. reveal the number of employers who continue to participate in the program.												
7. reveal the help and publicity given by community groups, employer groups, and advisory groups.												

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S
1	4	6	4	NI
1	4	4	4	?

Priority

Notes: _____

TALLY TOTALS				
X WEIGHING FACTOR	1	4	6	9
= COLUMN SUBTOTAL				
= PAGE SUBTOTAL SCORE				

Signed: _____

Date: _____

COUNSELING CHECKLIST: STUDENTS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Counselor-Student Relationship The counselor: 1. has an attitude of respect for the student.												
2. provides ways to help students explore their self-identity and personal goals; i.e., helps students answer questions: Who am I? What are my strengths and weaknesses? What do I want out of life?												
3. provides ways to help students learn about career clusters.												
4. explains ladder-approach to careers and the tendency toward frequency of job change, and job mobility.												
5. provides same information on all career potentialitites to both men and women and people of minority groups.												
6. has current information on various careers and has evaluated it for sex- and race-fairness.												
7. helps students evaluate cooperative jobs offered in terms of skills required.												
8. works with students in developing job attack skills												
9. helps students plan course(s) to take that would help fulfill cooperative requirements and their vocational objectives.												
10. acts as ombudsperson for the student with the administration, the faculty, and the employer.												
11. helps students with problems as they arise during the job.												
12. helps students evaluate their experience after cooperative program has ended, in terms of permanent employment options and preferences.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

_____

_____

_____

Signed: _____

Date: _____

COUNSELING CHECKLIST: ADMINISTRATION	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Counselor-Administration Relationship												
The counselor:												
1. helps establish a master schedule for courses and registration that will permit equal treatment of cooperative students and revise requirements for graduation that may be biased against cooperative students.												
2. helps coordinate the schedule of classes with jobs during the semester to ensure that course sequences are open to students in the cooperative program.												
3. works with administration in carrying out affirmative action programs in counseling staff.												
4. helps administration complete compliance reviews of Title IX, vocational education, handicapped education, and other racial and ethnic issues as they impact on the cooperative education program.												
5. has sufficient staff with the right make-up to do a proper job.												
6. trains paraprofessionals and/or peer counselors to handle routine or preliminary work.												
7. uses group counseling when appropriate.												
8. coordinates efforts with other counseling programs such as VA, rehabilitation, psychiatric, etc.												

COUNSELING CHECKLIST: FACULTY	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Counselor-Faculty Relationship												
The counselor:												
1. meets with faculty to discuss specific ways courses could be modified to meet the needs of cooperative students.												
2. works with faculty to help them understand the need for discussing career opportunities in their fields												
3. meets with faculty to train them in subleties of sexual and racial bias that may hold back students' progress in their courses.												
4. matches students' feedback with performance objectives of instructors.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S
1	4	6	4	NI
1	4	4	4	?

Priority

Notes: _____

Signed: _____

Date: _____

COUNSELING CHECKLIST: EMPLOYER	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Counselor-Employer Relationship The counselor:												
1. meets with employers to understand their needs and the needs required on specific jobs.												
2. helps match students with the employers' needs.												
3. talks with employers to help them understand the workings of the cooperative program.												
4. helps employers understand ways to evaluate students and coordinate the employer-student evaluation.												
5. helps employers understand the laws on equal opportunity and ways to break stereotypes about minorities and women so they can be promoted and trained for greater responsibility.												
6. sets up meetings between employers and faculty so they can establish a dialogue leading to increased recognition of one another's problems.												
7. encourages employers to come to campus for job fairs and for informal meetings with students interested in careers in their field.												
8. encourages employers to enter or re-enlist in the cooperative program.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

Signed: _____

Date: _____

COUNSELING CHECKLIST: BACKGROUND	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The counselor:												
1. holds a degree in vocational counseling or at least one course in vocational counseling.												
2. is a member of professional counseling organization concerned with vocational guidance.												
3. has paid work experience other than in education.												
4. is familiar with at least four tests of career guidance inventories and understands differences in their make-up and purpose.												
5. has experience or training in counseling women for non-traditional jobs.												
6. is familiar with Title IX of the Education Amendments of 1972 as it relates to counseling and other aspects of the cooperative program.												
7. is familiar with Title VII of the Civil Rights Act as it relates to counseling and jobs.												
8. is familiar with the Vocational Education Act of 1976 (P.L.94-482).												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

_____

_____

_____

Signed: _____

Date: _____

CHAPTER V

PROGRAM ACTIVITIES

The completion of the counseling checklist will give the program administrator an indication of the strengths and weakness in evaluation of counseling and will indicate those areas where improvement could most impact on the success of the program. Other perceptions are necessary, however, to give the clearest picture of the evaluation of program effectiveness. This chapter explains the other features of a cooperative education program and provides a checklist for step-by-step examination of individual program activities which were identified during the needs assessment as high priority concerns on the part of cooperative education program directors.

The activities are divided into two major categories: matching the academic program to job requirements; and monitoring student academic and job-related progress.

I MATCHING ACADEMIC PROGRAM TO JOB REQUIREMENTS

Matching the academic program to job requirements raises the ire of many liberal arts faculty members, but it is the essence of a successful cooperative education program.

1. The Work Ethic: The National Institute of Education is doing research on the way to mesh career preparation with academic courses and job requirements. "People are not prepared for employment or continued education because educational experiences that foster realistic career attitudes, behaviors and expectations, and general and specific occupational skills are often not available," NIE researchers state. Many people, according to the director of the U.S. Office of Career Education, Dr. Kenneth Hoyt, do not develop work values: coming to work on time, doing one's best, finishing tasks that are begun, and cooperating with one's fellow workers.

Thus, it is important that the course instructors help motivate the students to not only learn the skills required on the job but to develop a sense of the work ethic.

2. Credentialing: Another reason people are not prepared for employment is that their skills, abilities, and competencies are not certified in a way useful to continued education or to entry and progression in the ranges of occupations for which they may be qualified.

Willard Wirtz, in a Statement before the Subcommittee on Labor, Health, Education, and Welfare of the House Committee on Appropriations, 16 May 1974, commented, "Our credentialing processes often constitute barriers to new career paths, promote the lockstep educational pattern from high school to college, and prevent many, including women, from re-entering the work force and pursuing the careers they desire. Educators and employers must continue to seek ways of measuring what a person can do rather than depending on the number of years of school achieved and degrees attained."

Employers are similarly hanidcapped in selection because hours of course work completed or possession of a degree-based or hour equivalency may be poorly related to competencies needed on the job.

Legal restrictions on job entrance tests make it necessary that the training a person receives will equip that person for a job. It would help a student find employment if the employer understood the elements that constituted the employment training of the individual in the cooperative program.

3. Academic skills: Basic skills are required. Many students who have only vocational skills lose out because employers require that a person be able to read directions and follow them, write up reports on equipment malfunctions, or make reports on new techniques, workflow, or various other elements. It is important that a student who is deficient in basic skills receive help to meet basic minimum standards. This is also true of language deficiencies. In certain areas, a course in public speaking would help the student work more efficiently on the job. Such training might make the difference between a dead-end job and one with more advanced potential.

4. Independence: Students should have experience in structuring their own work. Projects may be required in the course of their work to help them gain practice in this area. Students should have knowledge about the cost-effectiveness of various procedures and methods. Knowledge of

the theory of hydraulic transmission may bear little relation to the ability to fix a car. In graphic design, for example, it is important that students be able to plan a project, and then execute it from start to finish. The successful execution of a project may be a more effective measure of job competence than a simple paper and pencil list.

5. Speed and accuracy: The speed and neatness with which students work comes with practice. However, students may be too hurried to do a competent job. In some cases, this may result in gross inaccuracies, or important details may be omitted. It is important for students to gain enough skills so they can perform with ease on the job. Employers should understand the speed at which new employees can perform their tasks so as not to put unreasonable demands or pressure on cooperative students.

6. Safety: Safety requirements are an important aspect of each job. Students should understand what safety problems there are at each stage of the job so they can take account of them when performing the job. For example, the task of developing film might be detailed along with the safety requirements:

- Load tank in dark room
- Prepare chemicals for developing and fixing
- Check temperature of solution and adjust development time
- Add developer and agitiate chemicals during development

Avoid:

- Prolonged contact with chemicals
- Wear rubber gloves and apron
- Use all solutions at correct temperatures or adjust processing time
- Wear goggles
- Replace developer with stop bath
- Place film in drier
- Wash and dry film.

7. Legality: Many jobs have laws regarding them. For example, in photography, do students understand laws on model releases, obscene photography, counterfeiting, seditious literature, etc.?

8. Career structure: Students should understand the entire structure of their area of interest. They should be able to identify various careers in the field. For example, in printing, the careers might

include linotype operator, intertype or monotype press operator, offset press operator, proof press worker, screen maker, silkscreen cutter, silkscreen machine operator, and various bindery jobs and stitching jobs. The student should have a basic understanding of what each of these people do. A student who intends to work in printing should also know what the graphic designer and editor do so the student can understand what occurs when changes are made or proposals bid on.

9. Performance-based objectives: Instructors understanding how to write performance-based objectives is a key to the process of matching the course with the job. Performance-based objectives are derived from a detailed description of the series of tasks involved in performing a skill needed on a job.

If this process is completed in sufficient detail, an employer could examine it and see if there are any serious ommissions or confusions that might thwart an individual's performance on the job or even getting a job.

The director of the cooperative program may provide in-service training or a special seminar on writing performance-based objectives.

10. Individualization: For students to be successful in a course, the instructor must take individualization into account. This demands, even in a rigidly programmed instruction, customizing it to suit the needs of the student. The instructor can serve as a model for the students, as well as a source of encouragement to students who might otherwise drop out of school.

11. Up-to-date instruction: Organization is a major aspect of a successful program. Learning experiences must be structured so that students may duplicate them on the job. In certain newly emerging areas, it may be helpful and provide extra interest to have people from industry discuss their background and companies. However, it is advisable to discuss the content of the presentation with the presenter beforehand.

Seeing is believing. While a professional teacher or instructor is expected to keep up-to-date by reading the literature in her or his field, it is necessary to visit work sites where students will receive training.

It is also helpful if the instructor can visit other sites to be able to make comparisons and present this information to students.

It may be possible for the department heads of several cooperative education feeder programs to get together to discuss areas of mutual concern. In the graphics areas, this might include discussion among the photography, communications, graphics, and drafting deaprtments. It may be possible for them to sponsor a guest speaker or bring in a special display for all students.

12. Retraining: It is important that instruction be provided on tools and machines similar to those found in industry. If a student learns to gain proficiency on certain equipment that is no longer used in the field, then he or she is not employable without extensive re-training which employers may be reluctant to provide.

An institution may hope to cut-corners by using older equipment, but this is a mistake. The cooperating employers may be willing to donate the type of equipment or have students trained in this aspect of the course at their plant.

It may also be possible to get the repair-person of the equipment used to come to the class to give a demonstration or answer questions about the equipment. When selecting machines or equipment for a course, it may be worthwhile for a series of salespeople to make their presentations to the class and have the class quiz them on problems they may encounter.

It is also essential to assess the effectiveness of procedures used to monitor the progress of the student through the academic and job-related phases of the program; a discussion of this area follows.

II MONITORING OF STUDENT ACADEMIC AND JOB-RELATED PROGRESS

P.L. 94-482 requires that programs of vocational education be evaluated by each state using statistically valid sampling techniques. The law further stipulates that programs be evaluated in terms of the "extent to which completers and leavers (i) find employment in occupations related to their training; and (ii) are considered by their employers to be well-trained and prepared for employment."

The cooperative education administrator striving to meet the mandates of P.L. 94-482 will sometimes find information readily available. At other times, the necessary records, procedures, or instruments will be much harder to locate, or entirely new systems will have to be developed.

Job-Related Progress

To assess the procedures used to evaluate job-related progress, the program administrator should look for the following information:

1. The extent to which the program, for completers and leavers (both broken down by age, race, ethnicity, sex, and handicap), matches
   - the aptitudes of the student with the aptitude required by the job
   - the interests of the student with the interests required by the job
   - the skills level --academic, technical, and human relations-- of the student with the entry level skills required by the job; and
2. The extent to which completers and leavers
   - stay on the job
   - get promotions and/or salary increases
   - require retraining, and
   - satisfy the employer.

Academic Progress

To assess the procedures used to evaluate academic progress, the program administrator should examine the reliability and validity of the instruments used, the content they cover, their cost and ease of use, and the collection, analysis, and reporting of data.

1. Reliability refers to the consistency with which an instrument produces information. Types of reliability of interest to cooperative

educators are:

- Equivalence or internal consistency, which measures the homogeneity of test items, the degree to which they measure the same skills or underlying characteristics;
- Test-retest reliability, which measures the extent to which scores remain stable or consistent from one test period to the next in the absence of any changes in the examinees; and
- Alternate-form reliability, which measures how similar examinees can be expected to perform on different forms of the same test.

2. Validity refers to the accuracy of information provided by an instrument. Types of validity of interest to cooperative educators are:

- Content validity, which measures the degree to which a test covers the objectives and skills it claims to cover;
- Concurrent validity, which measures the extent to which the student's performance on a test is similar to his or her performance on some already-validated test that measures the same objectives and skills;
- Predictive validity, which measures the extent to which scores on a test are predictive of performance on future tasks;
- Construct validity, which measures the degree to which scores on a test permit inferences about underlying traits or psychological traits;
- Sensitivity to program effects, which measures a test's ability to discriminate those who have from those who have not benefited from a program; and
- Culture and sex bias, which measures the degree to which a measure produces a fair estimate of a particular group's performance.

Another aspect of validity of interest to cooperative educators is norm-referenced and criterion-referenced score interpretations. In an criterion-referenced test, the score is given as a percent: the number of items a student answered correctly, divided by the total number of items. In a norm-referenced test, the score is given in percentiles, showing how well the student did in relation to other students (the "bell curve" method of scoring). The groups to which an instrument is normed can be divided by region or state, or by age, race, sex, ethnicity, or handicap.

3. In terms of coverage, the instrument should provide the information that you need about the student, not irrelevant material.

4. Failure to account for ease of use and cost may produce unnecessary delays in the start of the evaluation and also could result in a loss

of the explanatory powers of its information.

5. In addition to the cost of data collection, a number of additional factors should be taken into consideration. Data collection is a very sensitive issue from the perspective of the faculty and individuals administering the program, and from the perspective of individual students, due to recent legislation regarding confidentiality and privacy rights of those participating in research and evaluation projects. In addition, care must be taken to insure that the data collection phase does not create undue administrative burdens on those operating the program. To the extent that such individuals are willing to accept certain data collection responsibilities, it should be emphasized that the vested interests and subjectivity of data collection participants do not contaminate the data. And finally, once the information is collected, it must be managed in such a way that it is secure so far as privacy is concerned, yet is still easily retrievable for analysis and is also flexibly categorized such that additional data may be added.

6. The type of analysis and treatment of the data is directly related to the objectives of the evaluation and/or the requirements imposed by funding and/or other agents. It is not the purpose of this checklist to provide guidance into the types of analyses which could be conducted since they are myriad and varied. There do exist a number of books and guides which do provide this kind of assistance, including those prepared by Dr. Sarah Steele, Center for Study of Evaluation, UCLA; SPEMS (developed by Education TURNKEY Systems); the recent model developed by Fink and Kosecoff; and other materials mentioned in Chapter II.

Regardless of the types of analysis, there do exist two distinct reporting areas: interim reporting on student progress; and reporting on the success of the overall program at its completion. The frequency and nature of interim reporting may be a function of the instrument used. For example, if the criterion-referenced testing program is being used, then interim reports could be an accumulation and aggregation of progress indicated on the individual students' files. On the other hand, if standardized tests are used, then alternative forms of tests could be administered periodically to a sample of students involved in the program prior to completion. In other instances, interim reporting could be based upon criterion tests

while final reporting is based upon standardized test scores. Other areas in which interim and final student progress can be monitored have been discussed previously (e.g., percentage of placements, salary differentials, satisfaction of employers, etc.).

In conclusion, there are many issues involved in determining the merit of procedures for evaluating the match between the academic program and the requirements of the job: the work ethic; credentialing; academic skills; independence; speed and accuracy; safety; legality; career structure; performance-based objectives; indivualization; up-to-date instruction; and retraining.

Instruments used to monitor student academic and an job-related progress should provide a profile of the student and of the job, should follow the on-the-job progress of completers and leavers, should involve reliable and valid measures of academic achievement that are normed to the group appropriate for the program, and should use suitable methods of data collection, analysis, and reporting. An itemized checklist follows, for use as a guide in assessing the degree to which the evaluation effort in a particular cooperative education program meets these criteria.

III PROGRAM ACTIVITIES CHECKLIST

General Instructions: Follow the instructions given for the Counseling Checklist in the appendix, as the format is the same.

Specific Instructions: Make several copies of each of the following checklists. Give all pages to the staff of the cooperative education program and ask them to answer all the questions that they can. Then, give copies of the Student page to several former cooperative education students. Let employers answer the Employer page, and instructors the Instructor pages.

Compare the answers given by the program staff with the answer provided by the students, employers, and instructors.

PROGRAM ACTIVITIES CHECKLIST: STUDENT	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Students who have graduated from the cooperative education program:												
1. know how to use the tools of their trade.												
2. know how to operate machines in their field.												
3. know how to repair machines in their field.												
4. read and understand directions on the job.												
5. understand the vocabulary used.												
6. read and understand technical specifications or drawings.												
7. can perform technical calculations in their area, to handle problems on the job.												
8. can write descriptions or reports as required.												
9. can perform tasks rapidly enough to keep up on the job.												
10. have enough liberal arts or business background to equip them to move into management.												
11. can structure or organize their own work.												
12. understand the cost-effectiveness of various operations.												
13. can perform with neatness, and/or appropriate attention to detail.												
14. understand safety requirements of the job.												
15. understand the laws affecting their careers.												
16. understand the entire occupational structure in their area of interest.												

PROGRAM ACTIVITIES CHECKLIST: INSTRUCTORS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Instructors in the cooperative education program:												
1. understand how to write performace-based objectives.												
2. describe courses in cooperative program in terms of skill objectives.												
3. state the conditions under which, or tools with which, students perform their skills.												
4. state the acceptable level of performance in their objectives.												
5. break skills down into specific tasks involved in doing that job.												
6. compile task lists by talking with individuals now doing the work, watching them on the job, and talking with their supervisors.												
7. list tasks along with the frequency of their performance, their inportance, and the learning difficulty involved.												
8. arrange the task list in order of sequence that must be followed.												
9. list tools or materials needed to perform each task.												
10. list safety considerations or hazards involved in each step.												
11. provide practice in tasks under conditions similar to those found on jobs.												
12. allocate sufficient time to practice skills so they can determine when task is done wrong.												
13. give students a copy of the objectives and task lists.												
14. arrange course(s) so as to take student ability into account.												
15. help students in areas of weakness or deficiency.												
16. arrange learning experiences in orderly sequence.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

_____

_____

_____

Signed: _____ 80 -74- Date: _____

PROGRAM ACTIVITIES CHECKLIST: INSTRUCTORS (cont'd.)	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
17. bring in experts from the field to demonstrate techniques or discuss problem areas.												
18. regularly visit the industry in their professional area.												
19. plan field trips to industry or business sites where students can see actual operation.												
20. have paid experience in the area they are teaching.												
21. have formal training in the area they are teaching.												
22. keep in touch with faculty members to let them know what they are doing to help them alert students to overlapping areas of interest that their students may wish to sit in on.												
23. read professional journals and attend professional meetings to keep up-to-date in their area.												

PROGRAM ACTIVITIES CHECKLIST: EMPLOYERS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Employers of cooperative education students:												
1. participate in program planning sessions.												
2. identify skills needed for success on the job in specific skill terms and in human relations terms.												
3. visit campus to meet with academic instructors, director of the cooperative program, and administration.												
4. provide samples of materials used or problems found in their jobs.												
5. provide work experience for faculty members during summer.												
6. structure cooperative jobs so they lead to upward mobility.												
7. seriously consider the terms of the cooperative contract.												
8. use students in areas of students' interest.												
9. are aware of students' differing learning styles.												
10. agree to specific ways to evaluate students and communicate methods to be used on students.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	N
1	4	4	4	?

Notes: _____

82

Signed: _____ Date: _____

PROGRAM ACTIVITIES CHECKLIST: DIRECTOR	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The cooperative education director:												
1. requires a list of performance objectives from instructors.												
2. shares these objectives with employer.												
3. gets feedback from employer.												
4. gets performance objectives from employer.												
5. shares these objectives with faculty and discusses areas of nonconjunction to find ways to overcome problems.												
6. checks with employers at end of semester to see if the course work has fulfilled the employee;s needs and to discover how it might be further modified or changed.												
7. discusses affirmative action programs with employers.												
8. or the counselor monitors industry to see that they are doing what they said they would.												
9. ensures that employers provide more than menial tasks for students.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

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Signed: _____ 83 -77- _____ Date: _____

PROGRAM ACTIVITIES CHECKLIST: ISSUES	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The instruments/records/procedures used in the cooperative education program provide information about the												
1. assignment of students to cooperative education programs.												
2. program leavers as well as completers.												
3. student's age, race, sex, ethnicity, and handicap.												
4. student's previous academic training.												
5. student's job training courses.												
6. student's job experience while in school.												
7. student's aptitude.												
8. aptitude required by the job.												
9. comparison of the aptitude of the student with the aptitude required by the job.												
10. student's interests.												
11. interests required by the job.												
12. comparison of the interests of the student and the interests required by the job.												
13. academic level of the student.												
14. entry level academic skills required by the job.												
15. comparison of the academic level of the student and the entry level academic skills required by the job.												
16. academic courses offered in the program.												
17. technical skill of the student.												
18. entry level technical skill required by the job.												
19. comparison of the technical skill of the student and the entry level technical skill required by the job.												
20. job-realted courses offered in the program.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

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Signed: _____ Date: _____

PROGRAM ACTIVITIES CHECKLIST: ISSUES (Cont'd.)	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
21. human relations skill of the student.												
22. entry level human relations skill required by the job.												
23. comparison of the human relations skill of the student and the entry level human relations skill required by the job.												
24. duration of completers on the job compared to the duration of leavers on the job.												
25. duration of students compared to non-students.												
26. salary of completers after 6 months compared to the salary of leavers after 6 months.												
27. salary of students compared to non-students after 6 months.												
28. salary of completers after 12 months compared to the salary of leavers after 12 months.												
29. salary of students compared to non-students after 12 months.												
30. salary of completers after 18 months compared to the salary of leavers after 18 months.												
31. salary of students compared to non-students after 18 months.												
32. on-the-job retraining needed by completers compared to on-the-job retraining needed by leavers.												
33. retraining needed by students compared to non-students.												
34. employer satisfaction with completers compared to leavers after 6 months.												
35. employer satisfaction with students compared to non-students after 6 months.												
36. employer satisfaction with completers compared to leavers after 12 months.												
37. employer satisfaction with students compared to non-students after 12 months.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

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Signed: _____ Date: _____

PROGRAM ACTIVITIES CHECKLIST: ISSUES (Cont'd.)	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
38. employer satifaction with completers compared to leavers after 18 months.												
39. employer satisfaction with students compared to non-students after 18 months.												
40. completers who hold jobs in their area of interest after college compared to leavers.												
41. students who hold jobs in their area of interest after college compared to non-students.												
TALLY TOTALS												
X WEIGHING FACTOR									1	4	6	9
= COLUMN SUBTOTAL												
= PAGE SUBTOTAL SCORE												

Y	S	N	?	→ Rating	
9	4	1	1	I	Priority
4	4	4	4	S	
1	4	6	4	NI	
1	4	4	4	?	

Notes: _____

Signed: _____ -80- Date: _____

PROGRAM ACTIVITIES CHECKLIST: INSTRUMENTS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The testing instrument used in the cooperative education program:												
1. clearly identifies the subject areas measured.												
2. measures the subject areas of most conern to the program.												
3. costs less than $1.00 per student to buy.												
4. costs less than $1.00 per student to administer and score.												
5. records information for each student.												
6. records information for each classroom.												
7. records information for each program.												
8. gives complete directions for its use.												
9. requires no special equipment.												
10. can be completed by a student in less than 30 minutes.												
11. can be completed by a student in less than 60 minutes.												
12. takes more than an hour to complete.												
13. is to be completed by school staff.												
14. is to be completed by specialists.												
15. uses an objective scoring system.												
16. uses a score interpretation formula that is easy to understand.												
17. reports scores by individual subject areas.												
18. reports a single undivided score for each student.												
19. contains provisions for norm-referenced score interpretations.												
20. provides norms for different ethnic groups.												
21. provides norms for males and females.												
22. provides nationally and regionally representative norms.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

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Signed: _____ 87 -81- Date: _____

PROGRAM ACTIVITIES CHECKLIST: INSTRUMENTS (Cont'd)	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
23. provides geographically restricted norms (e.g., a single district).												
24. provides for criterion-referenced score interpretations.												
25. sets criteria on the basis of empirical data.												
26. provides useful information about its own validity.												
27. provides scores that can only be interpreted by a specialist.												
28. provides scores that can be interpreted by school personnel.												
29. provides scores that can be interpreted by the student.												
30. provides a complicated score interpretation guide.												
31. provides uncomplicated score interpretation guide.												
32. provides limited guidelines for decision-making based on the student's scores.												
33. provides extensive guidelines for decision-making based on the student's scores.												
34. provides a single test score.												
35. provides a few subscores.												
36. provides many subscores.												
37. provides a profile with no scores.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating	
9	4	1	1	I	Priority
4	4	4	4	S	
1	4	6	4	NI	
1	4	4	4	?	

Notes: _____

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Signed: _____

Date: _____

PROGRAM ACTIVITIES CHECKLIST: DATA COLLECTION	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The data collection techniques used in the cooperative education program:												
1. minimize disruption within the program during the data collection phase.												
2. ensure the protection of individual privacy rights and confidentiality.												
3. minimize the possibility of subjectivity on the part of those collecting the data.												
4. allow for easy reduction in accordance with the data management plan.												
5. ensure that data can be easily retrieved for analysis purposes in a pre-determined format.												
6. provide flexibility for updating and/or modification of the data base.												
TALLY TOTALS												
X WEIGHING FACTOR									1	4	6	9
= COLUMN SUBTOTAL												
= PAGE SUBTOTAL SCORE												

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

Signed: _____ 89 -83- _____ Date: _____

PROGRAM ACTIVITIES CHECKLIST: DATA ANALYSIS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
The procedures for data analysis and reporting in the cooperative education program:												
1. are consistent with the overall evaluation objectives and external requirements.												
2. provide for interim progress reporting on academic achievement.												
3. provide for interim progress reporting on on-the-job training progress.												
4. provide opportunities for feedback to instructors and the cooperative education director.												
5. provide information in a useful format, in a timely and efficient manner.												
6. provide for the use of statistical applications to treat the data where appropriate.												
									TALLY TOTALS			
									X WEIGHING FACTOR	1	4	6	9
									= COLUMN SUBTOTAL				
									= PAGE SUBTOTAL SCORE				

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

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Signed: _____

Date: _____

CHAPTER VI

RELATING PERFORMANCE AND COST

Most education legislation over the last five years has explicitly or implicitly required local and state education agencies to demonstrate the relationship between the cost of programs and their success. This is particularly true in the new Education Amendemnts of 1976 affecting cooperative education.

I GLOBAL ISSUES

Virtually all citizens in this country, conciously or unconciously, relate cost to performance or benefits daily in decisions they make. Indeed, the backbone of a "free" enterprise market mechanism is the constant weighing of these two factors. However, while these criteria are uppermost in the minds of decision-makers in the private sector, consideration of these factors in education and other government-operated programs is often a lower, sometimes clouded priority for a number of reasons.

First, unlike measuring profits in a private sector, no such "bottom line" exists in governmental operations and in education. The notion of measuring the productivity of government continues to conjure up political debates and consume considerable amounts of the resources allocated for education research and development.

Second, unlike many consumer goods purchased over the counter, education is also perceived to be an investment in "human" capital. However, given the increasing technological changes affecting the social and economic milieu in which people increasingly gain horizontal and vertical mobility, it is indeed difficult to determine what portion of one's education can be considered an investment and what portion a consumable item. Perhaps over time, with the emergence of concepts such as career education and leisure education, the distinction will become more clear.

Third, determining the cost and benefits of education in our society is also a debatable topic, and without a clear determination of either, a proper comparison cannot be made. While the value of education to an individual may be determined, the value to a society having well-educated

citizens is less discernable except in a general sense. On the other hand, the high cost of education can be identified. The additional cost to society of not having well-educated citizens is less easily determined. However, at the national level, these types of cost-benefit relationships have to be taken into account for policy-making purposes which attempt to distribute and redistribute funds for educational purposes.

II TECHNICAL ISSUES

As one focuses upon the relationship of cost to performance in educational institutions, a number of technical issues immediately arise in addition to those more global issues described above. First, of primary concern is the criteria for measuring the success of programs. These criteria generally fall into two categories: (1) those measuring various types of outputs or outcomes; and (2) those measuring the processes of delivery of services provided.

Criteria for Measuring Performance of Programs

1. Outcome criteria: Outcome criteria reflect or should reflect perceived omissions, goals and objectives of programs. For example, if one considers the primary function of public schools to be that of a custodian for a period of a child's life as required by compulsory attendance laws, then the criteria for success could include: (1) maintaining the scheduled operations of schools; (2) maintaining the health and physical well-being of students; and (3) ensuring the maximum number of school age children actually attend schools. If on the other hand, one perceives the major objective of school operations to impart skills in areas such as reading, then the primary criteria of success could range from norm-referenced, standardized test scores to individually-designed performance-based measures such as comprehending drivers' manuals, newspapers, etc.

In addition to the above surrogates of performance, several longer-term measures can be used to assess programs. If on one hand, the objective of participating in an education program is to learn for the sake of learning, then the ultimate goal is whether or not the individual is "happier" or generally "satisfied" after receiving such education. If on the other hand, the education or training is considered more of an investment item where the individual or the state is expecting some return on

that investment, then measures in some instances can be more specific, such as: (1) probability of employment for completers and leavers of the program; (2) retention of the job after a period of time; and (3) salary differential between those receiving training and those who did not. Hence, in selecting the specific criteria for assessing program outcomes or outputs one should take into account not only short-term criteria but also more long-term criteria, both of which have to be questioned in terms of their accuracy, reliability and even validity.

2. Delivery of services: The other set of criteria relates to the delivery of services as a measure of success. In education programs, particularly those that are operated as special projects outside of regular program operations, those individuals managing these projects usually have a predetermined plan which specifies all of the tasks and activities which have to be completed before the project itself is completed. The criteria for success in this case is the degree to which the plan is implemented in terms of several criteria, including time, cost, and level of performance. In most education projects, however, the operational time is usually predetermined (i.e., schools operate 180 days per school year, and programs operate for a semester, etc.), and the amount of funds is usually predetermined, especially when provided by an outside agency. Since there exist few, if any, incentives to conduct the project without spending the total amount budgeted, the major criterion is usually the level of performance achieved by the services. Hence, the criterion for the manager of the project is usually to maximize the performance levels of services provided within a fixed time constraint and given a fixed budget. In education programs which are not, however, funded through outside sources nor are considered to be special projects but rather part of an overall regular program operation, the constraints of time and budget are often relaxed, in which case the manager is constantly trading off time against cost against performance in meeting the overall objectives of the project (e.g., "If I descrease time the costs will drop; but what happens to the level of performance?"). Even in programs of this nature, flexibility seldom exists.

Costs/Resources

A second set of issues relate to cost. When one addresses the question of cost in education programs there is a natural tendency to equate costs with what is reflected in budgets. The preparation of accurate budgets is usually crucial at the beginning and end of projects. A budget projecting resources to be used is usually required to obtain funds, or is required by auditors at the completion of projects to ensure that all funds are properly accounted for. Except in the most extreme cases, budgets -- either projected or actual -- tell very little about program efficiency and are virtually useless in allowing one to relate cost to performance. Budgets do, however, provide a starting point for identifying cost relationships.

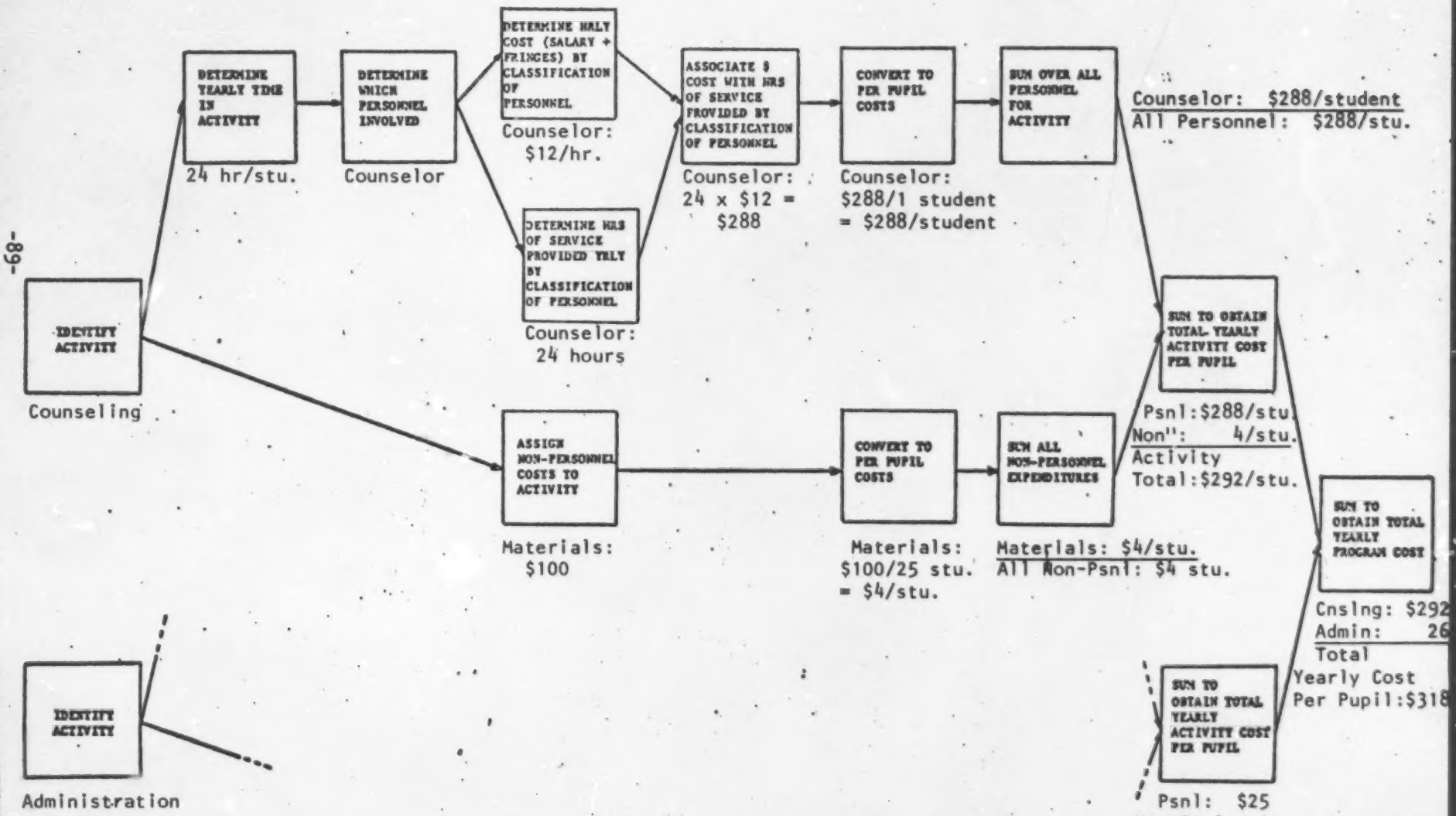
Increasingly, resource consumption models and techniques are being used to relate cost to performance. Usually in these resource consumption models, the total amount of resources by type of resource (facility, staff, etc.) is prorated (as consumed) to functions or specific programs (e.g., reading programs, training programs, etc.). For example, a budget might indicate the following subtotals for the entire program: instructional salaries; administrative salaries; custodial salary; equipment; supplies; and services. In contrast, a resource allocation model indicates what slice of each of these budget categories applies to each part of the program. For instance, it would indicate what percentage of the instructional salaries budget, and of the administrative salaries budget, and of the supplies budget, etc., is allocated to the reading program.

Exhibit IV-1 illustrates a resource consumption cost model (i.e., the COST-ED Model) for identifying costs, relating costs to functions, and eventually to performance level achieved by those functions or programs.

1. Staffing: In virtually all types of education programs, the most sensitive and critical cost factor is staff time, and as a result the most critical element in a good resource consumption model is the ability to identify time usage patterns by various staff members and the proper proration of that time to specific programs and functions.

2. Standard and Actual Pricing: A second major issue related to to cost, particularly in state-wide and national evaluations, is whether

COSTING METHODOLOGY SCHEMATIC


IDENTIFY ACTIVITY
Counseling
DETERMINE YEARLY TIME IN ACTIVITY
24 hr/stu.
DETERMINE WHICH PERSONNEL INVOLVED
Counselor
DETERMINE HRLY COST (SALARY + FRINGES) BY CLASSIFICATION OF PERSONNEL
Counselor: $12/hr.
DETERMINE HRS OF SERVICE PROVIDED YRLY BY CLASSIFICATION OF PERSONNEL
Counselor: 24 hours
ASSOCIATE $ COST WITH HRS OF SERVICE PROVIDED BY CLASSIFICATION OF PERSONNEL
Counselor: 24 x $12 = $288
CONVERT TO PER PUPIL COSTS
Counselor: $288/1 student = $288/student
SUM OVER ALL PERSONNEL FOR ACTIVITY
Counselor: $288/student
All Personnel: $288/stu.
ASSIGN NON-PERSONNEL COSTS TO ACTIVITY
Materials: $100
CONVERT TO PER PUPIL COSTS
Materials: $100/25 stu. = $4/stu.
SUM ALL NON-PERSONNEL EXPENDITURES
Materials: $4/stu.
All Non-Psnl: $4 stu.
SUM TO OBTAIN TOTAL YEARLY ACTIVITY COST PER PUPIL
Psnl: $288/stu
Non": 4/stu.
Activity Total: $292/stu.
IDENTIFY ACTIVITY
Administration
SUM TO OBTAIN TOTAL YEARLY ACTIVITY COST PER PUPIL
Psnl: $25
Non-Psnl: 1
Activity Total: $26
SUM TO OBTAIN TOTAL YEARLY PROGRAM COST
Cnslng: $292
Admin: 26
Total Yearly Cost Per Pupil: $318

to use standard pricing or actual pricing for the types of resources (again, mostly staff) which are used. One problem that arises is the wide variance in, for example, teacher salary when comparing a metropolitan area to a rural area. One can standardize for these variances in studies involving a national sample, for example, by using the average salary rate for teachers with various levels of experience and seniority, rather than using actual prices. On the other hand, it might be advisable, in studies of a different nature, to use actual prices for the following reasons. First, by using the actual prices of a locality rather than standard prices, one is taking into account the fact that efficiency criteria might be used by planners at the experience level. For example, in designing a remedial reading program where available instructors have a large number of years experience (hence, high salaries), and where peer-tutors are paid only the minimum wage, a program planner could conceivably decide that three tutors would benefit the program more than the addition of one certified experienced instructor, even though the cost of the two alternatives would be the same. If one were to use standard pricing in comparing the cost and performance of this program to a national standard where the cost of aides was 50% higher, the relative cost of this program in comparison to others would be less cost-effective than if one used actual pricing.

Generally speaking, standard pricing is probably more advantageous in national or state-wide studies where the sample is supposed to be representative. On the other hand, actual pricing is more likely to be recommended when the analysis is closer to the local institutional level or where specific programs are compared to each other, even on a national basis.

3. "Free" Resources: Third, another technical issue is the manner in which "free" resources are treated. This is particularly true in education programs which have workstudy or community oriented education components, where resources are provided at no cost or are funded through other governmental agencies. The treatment of these resources is directly related to the perception of the specific institution doing the evaluation. For example, from a national perspective, free resources for the most part should be considered part of the total operating costs and should be allocated to the particular functions of programs. However, at the

local program level, from a management point of view, free resources are normally not included in any analysis. However, if one conducts a longitudinal study where the availability of free resources varies over time or a comparative study comparing one program to another over time, then such resources may be required for inclusion in the analysis. Again, depending upon the perception of the operating agency and its philosophy, these costs are often excluded for several reasons, including: (1) the difficulty of identifying such costs with any degree of accuracy; and (2) the assumption that the participating agency is benefiting to a level equal to the cost it expends in which case such resources are assumed away from the analysis.

4. Joint Users: And last, a cost consideration sometimes arises when certain costs, usually fixed costs, are incurred by joint users (e.g., the cost of a computer-based counseling service). The identification and determination of joint costs and then their proration is a methodological issue which has to take into account several factors. First, if the education program is of a long-term duration, then the major concern from the management perspective is the marginal cost or variable cost which could change over time. If on the other hand, the program is of a short term duration then it may be necessary to include as part of the overall operating costs a proration of the joint cost which is directly related to either support or operating functions within the education program. Second, the degree to which the education program manager has control over the resources often determines the method by which one identifies and allocates or prorates joint costs. For example, over the last decade a large number of educational regional service centers have been created within states which provide computer services to education program managers at the LEA level. To the extent that these services are provided through contractual obligations, the user costs are relatively easy to identify; and a joint cost can be more easily identified. On the other hand, however, when such resources are made available at low priority times, at varying degrees of quality, and through informal arrangement, the opposite is true.

Relating Performance and Cost

A third set of technical issues relate to the technique for analyzing and attributing resources consumed to performance and other outcome measures. Ideally, one would want to be able to develop an overall model based on historical data which would allow one to project the marginal increase or decrease in performance by reallocating existing resources or adding resources to particular programs or functional areas. For instance, such an ideal model would answer the following question: to increase placements in computer-related jobs by 10%, should instructional salaries in computer-related courses be increased?; and by what percent?; or should counseling salaries be increased, and by what percent?; or should instructional expenditures be increased?; and by what percent?

While this may be possible in certain areas such as defense, aerospace, etc., where physical laws have been observed (e.g., the law of thermodynamics), and can be applied to capital intensive functions, the state of the art in education does not at the present time permit it except at a very gross level. At the present time, the best one can do is to identify process variables related to organization, management, and instruction, and to some degree correlate these to various outcome measures. Once this is done, then one can identify the amount of resources consumed by these processes or implementation variables. For example, it is possible to identify factors correlated with redemial reading achievement, such as program monitoring, number of in-service training days, etc., and the costs of implementing each of these processes. However, the specific causal relationships remain unclear.

Relating performance and cost may involve new ways of data collection, such as a new requirement for administrative staff to fill out time sheets listing hours per day spent on various programs; but in the long run, the benefit to the program of being able to relate performance to cost will outweigh the initial inconvenience.

Once the program administrator has taken these major technical issues -- criteria for measuring the performance of programs; costs/resources; and relating performance and cost -- into consideration, he or she will be able to more effectively manage program resources to produce the desired outcomes.

III GENERAL QUESTIONS

Before going through the checklist designed to assist in relating performance to cost, the program administrator should address a few general questions. Place an X by all answers that apply, and fill in the blanks where appropriate to the program.

1. What are the specific criteria used to judge the success of your cooperative education program?

   Continued employment of completers after ____ months on the job.
   Salary of completer at beginning and ____ months after employment.
   Number of participants completing program.
   Achievement of participants in academic program.
   Demonstrated increase in skills and/or levels of performance as result of participation.
   Satisfaction of employer after ____ months of employment.
   Other_____

2. What will be the unit of analysis for reporting on the impact of the cooperative education program?

   Individual participant
   Portion of participants in specific programs
   Performance of all individuals in specific programs
   All participants and all cooperative education programs
   Other_____

3. Please describe how the unit of analysis will be aggregated; what type of statements will be made? (e.g., "80% of participants are on the job three months after completion of the program and entry into the work force."):_____

   _____

   _____

   _____

   _____

4. Identify all of the resources used and functions/services provided for each of the cooperative education programs to be analyzed. Do so by identifying those funds consumed by participants in each of the functional areas described below by putting a dollar figure in the appropriate box (see Exhibit IV-2, following. For instance determine how many hours the instructional staff spends per year doing counseling; then multiply that by the average hourly rate for instructional staff; and put the results in the top left box of Exhibit IV-2.

RESOURCE CONSUMPTION

Function	Counseling	Job Develop.	Staff Train.	Planning	Prog. A		Prog. B	
					On-the-job	Academic	On-the-job	Academic
Resource								
Instructional Staff								
Staff Assistant								
Administrative Staff								
Clerical/Secretary								
Counseling Staff								
Job Develop. Staff								
Placement Staff								
Instructional Staff								
Aministrative Facilities								
Data Processing Services								
Reproduction								
Books & Software								
Instructional Equipment								
Funrniture								
Other Supplies & Matls.								
Transportation Services								
Other_____								
_____								
_____								
Total Yearly Cost Per Participant								
Total Yearly Cost Per Component								

IV CHECKLIST

The purpose of the following detailed checklist is to assist the cooperative education program director in assessing existing procedures of relating performance to cost. Applying this checklist to existing procedures, combined with the preceding General Questions, should ensure that all factors have been considered or, in certain cases, could provide guidelines for developing techniques for data collection, analysis, and reporting.

PERFORMANCE & COST: RESOURCE ALLOCATION	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't know	Important	Somewhat	Not Impt.	Don't know	1	4	6	9
Time usage patterns of staff have been identified and prorated according to program components, using data of records regarding staff salary and prices.												
Total yearly cost per participant per program component has been derived from the steps involved in filling in Exhibit VI-2.												
All sources of resource information have been identified:												
budget for salaries, fringes												
insurance policy for replacement orders												
purchase orders, vouchers, invoices												
schedules for usage patterns												
program planning documents other than budgets												
TALLY TOTALS												
X WEIGHING FACTOR									1	4	6	9
= COLUMN SUBTOTAL												
= PAGE SUBTOTAL SCORE												

Y	S	N	?	→ Rating
9	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

Notes: _____

Signed: 103 -96- Date: _____

PERFORMANCE & COST: ANALYSIS

Statement	RATING: Yes	RATING: Somewhat	RATING: No	RATING: Don't know	PRIORITY: Important	PRIORITY: Somewhat	PRIORITY: Not Impt.	SCORE: 1	SCORE: 4	SCORE: 6	SCORE: 9
The unit on which cost is reported is the same as the unit on which performance is reported (for instance, if effectiveness is judged by numbers of students completing the program, then the unit for reporting cost is average cost per completer).											
The design allows for changes in the un't of analysis (from student/level, to class/level, to program component/level, to program/level) to ensure compatability with the unit on which cost is reported.											
The analysis allows correlation of process with performance (for instance, it is possible to relate the planning and direction of the counseling component to the success of counseling).											
The analysis also identifies the resources consumed in various processes such as planning, training, etc.											
TALLY TOTALS											
X WEIGHING FACTOR								1	4	6	9
= COLUMN SUBTOTAL											
= PAGE SUBTOTAL SCORE											

Y	S	N	?	
9	4	1	1	I
4	4	4	4	S
1	4	6	4	NI
1	4	4	4	?

→ Rating

Priority

Notes: _____

Signed: 104 -97- Date: _____

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APPENDIX

HOW TO USE THE CHECKLISTS

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HOW TO USE THE CHECKLISTS

Now that the broad questions are answered, the program administrator can begin a detailed evaluation using the Counseling Checklist. This and other checklists may at first seem time-consuming but will in the long run save wasted effort, because they reveal where energies are misdirected: important items that are neglected and unimportant things that are receiving too much attention. They also point out the areas of ignorance about the evaluation system that are most crucial to change.

By following the directions below the program administrator can learn how to use the checklists with little or no further training.

STEP 1. Make several copies of the checklist; keep the original for further copying as needs arise.

STEP 2. For each statement in the checklist, make three marks in the columns at the right hand side of the paper.

- Under RATING place a check mark (✓) under
  YES if the statement is true 67-100% of the time
  SOMEWHAT if the statement is true 34-66% of the time
  NO if the statement is true 0-33% of the time
  DON'T KNOW if there is no information about the truth of the statement

For example:

COUNSELING CHECKLIST: STUDENT	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't Know	Important	Somewhat	Not Impt.	Don't Know	1	4	6	9
The Counselor:												
1. Has an attitude of respect for the student.		✓										

(This answer indicates that, according to available information, in some cases the counselor's attitude reflects respect for the student.)

- Under PRIORITY place a check mark (✓) under
  IMPORTANT if the statement is crucial to the success of your program
  SOMEWHAT if the statement affects the success of your program in some way
  NOT IMPORTANT if the statement has no affect on the success of your program
  DON'T KNOW if the impact of the statement on your program is not known

  For example:

COUNSELING CHECKLIST: STUDENTS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't Know	Important	Somewhat	Not Impt.	Don't Know	1	4	6	9
The Counselor:												
1. Has an attitude of respect for the student.					✓							

(This answer indicates that, in the opinion of the program administrator, it is crucial to the success of the program for the counselor to have an attitude of respect toward the students.)

Y	S	N	?	→ Rating
S	4	1	1	I
4	4	4	4	S } Priority
1	4	6	4	NI
1	4	4	4	?

- Under SCORE, place a check mark (✓) under
  - 9 if you already checked YES and IMPORTANT
  - 6 if you already checked NO and NOT IMPORTANT, or
  - 1 if you already checked
    - YES and NOT IMPORTANT or
    - NO and IMPORTANT or
    - DON'T KNOW and IMPORTANT or
    - YES and DON'T KNOW
  - 4 if you already checked any other combination (for convenience these directions are summarized in the matrix at the left and on the checklist pages)

For example:

COUNSELING CHECKLIST: STUDENTS	RATING				PRIORITY				SCORE			
Statement	Yes	Somewhat	No	Don't Know	Important	Somewhat	Not Impt.	Don't Know	1	4	6	9
The Counselor: 1. Has an attitude of respect for the student.		✓			✓					✓		

(The combination already checked in this example is SOMEWHAT and IMPORTANT, which, by the above definitions scores a "4".)

STEP 3. At the bottom of the page, place the tally of all check marks in each of the SCORE columns in the spaces provided after the words TALLY TOTALS: For example:

2. Ways are provided to help students explore their self-identity and personal goals.	✓							✓				✓		
3. Ways are provided to help students learn about career clusters.				✓	✓				✓					
4. Counselor explains ladder approach to careers and the tendency toward frequency of job change.			✓				✓				✓			
TALLY TOTALS									1	1	1	1		
X WEIGHING FACTOR									1	4	6	9		
= COLUMN SUBTOTAL														
= PAGE SUBTOTAL SCORE														

(Counting the example at the top of the page, there is now one check mark (✓) in each column, so the TALLY TOTAL in each column is "1".)

STEP 4. Multiply each TALLY TOTAL by the weighting factor below it to derive the column sub-totals; then add the column sub-totals together to derive the page subtotal score of the program evaluation effort.

For example:

Y	S	N	?		
9	4	1	1	I	Priority
4	4	4	4	S	
1	4	6	4	NI	
1	4	4	4	?	

→ Rating

Notes: _____

_____

_____

_____

TALLY TOTALS	1	1	1	1
X WEIGHING FACTOR	1	4	6	9
= COLUMN SUBTOTAL	1	4	6	9
= PAGE SUBTOTAL SCORE				20

Signed: _____ Date: _____

(Continuing the same example, there was a tally total of "1" in each column. "1" times the weighting factor of "1" is "1"; "1" times the weighting factor of "4" is "4" and so forth.)

STEP 5. Copy the SCORE SHEET FOR COOPERATIVE EDUCATION PROGRAM EVALUATION (exhibit 1) and save the original for further copying as needed.

STEP 6. Add the page subtotals together to derive the Checklist Score, and place the Checklist Score on the SCORE SHEET FOR COOPERATIVE EDUCATION PROGRAM EVALUATION (See Exhibit 1).

STEP 7. Add the Checklist Scores together to derive the Program Evaluation Score. Use this score as a base figure against which to compare scores resulting from different methods of program evaluation, or proposed changes in techniques or reports. The higher the score, the better the proposed change meets the needs of the programs.

STEP 8. Use the checklist pages to guide efforts to improve evaluation. Concentrate first on getting rid of the "1's", because they indicate where energy is currently being misdirected.

EXHIBIT 1

SCORE SHEET

COOPERATIVE EDUCATION PROGRAM EVALUATION

	1	2	3	4	5	6	7	8	9	10
Checklist 1										
% increase over last mo.										
Checklist 2										
% increase over last mo.										
Checklist 3										
% increase over last mo.										